

ANALYTICAL REPORT

Lab Number: L1412645

Client: Cooperstown Environmental LLC

23 Main Street

Andover, MA 01810-0814

ATTN: Richard Gang
Phone: (978) 470-4755
Project Name: HOLYCROSS

Project Number: Not Specified

Report Date: 06/12/14

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Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1412645-01	WP-04	WORCESTER, MA	06/11/14 00:00
L1412645-02	WP-05	WORCESTER, MA	06/11/14 00:00
L1412645-03	WP-06	WORCESTER, MA	06/11/14 00:00
L1412645-04	WP-07	WORCESTER, MA	06/11/14 00:00
L1412645-05	WP-08	WORCESTER, MA	06/11/14 00:00



MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
Α	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status						
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES				
н	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES				
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES				

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.



Project Name:HOLYCROSSLab Number:L1412645Project Number:Not SpecifiedReport Date:06/12/14

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice and delivered directly from the sampling site.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Michelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

Date: 06/12/14

ORGANICS



PCBS



Project Name: HOLYCROSS Lab Number: L1412645

Project Number: Not Specified Report Date: 06/12/14

SAMPLE RESULTS

Lab ID: Date Collected: 06/11/14 00:00

Client ID: WP-04 Date Received: 06/11/14
Sample Location: WORCESTER MA Field Prep: Not Spec

Sample Location: WORCESTER, MA Field Prep: Not Specified **Extraction Method: EPA 3540C** Matrix: Wipe 06/11/14 14:35 Analytical Method: 97,8082A **Extraction Date:** Analytical Date: 06/12/14 09:52 Cleanup Method1: EPA 3665A Analyst: JΤ Cleanup Date1: 06/12/14

Cleanup Method2: EPA 3660B

Cleanup Date2: 06/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyl	ls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500		1	А
Aroclor 1221	ND		ug Abs	0.500		1	A
Aroclor 1232	ND		ug Abs	0.500		1	Α
Aroclor 1242	ND		ug Abs	0.500		1	Α
Aroclor 1248	ND		ug Abs	0.500		1	Α
Aroclor 1254	ND		ug Abs	0.500		1	Α
Aroclor 1260	ND		ug Abs	0.500		1	Α
Aroclor 1262	ND		ug Abs	0.500		1	Α
Aroclor 1268	ND		ug Abs	0.500		1	А
PCBs, Total	ND		ug Abs	0.500		1	Α

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria	Column		
2,4,5,6-Tetrachloro-m-xylene	96		30-150	Α		
Decachlorobiphenyl	104		30-150	Α		
2,4,5,6-Tetrachloro-m-xylene	90		30-150	В		
Decachlorobiphenyl	101		30-150	В		



Project Name: HOLYCROSS Lab Number: L1412645

Project Number: Not Specified Report Date: 06/12/14

SAMPLE RESULTS

Lab ID: Date Collected: 06/11/14 00:00

Client ID: WP-05 Date Received: 06/11/14
Sample Location: W/ORCESTER MA Field Prep: Not Spec

Sample Location: WORCESTER, MA Field Prep: Not Specified **Extraction Method: EPA 3540C** Matrix: Wipe 06/11/14 14:35 Analytical Method: 97,8082A **Extraction Date:** Analytical Date: 06/12/14 10:05 Cleanup Method1: EPA 3665A

Analyst: JT Cleanup Date1: 06/12/14 Cleanup Method2: EPA 3660B

Cleanup Date2: 06/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column			
MCP Polychlorinated Biphenyls - Westborough Lab										
Aroclor 1016	ND		ug Abs	0.500		1	Α			
Aroclor 1221	ND		ug Abs	0.500		1	Α			
Aroclor 1232	ND		ug Abs	0.500		1	Α			
Aroclor 1242	ND		ug Abs	0.500		1	А			
Aroclor 1248	ND		ug Abs	0.500		1	А			
Aroclor 1254	ND		ug Abs	0.500		1	Α			
Aroclor 1260	ND		ug Abs	0.500		1	Α			
Aroclor 1262	ND		ug Abs	0.500		1	Α			
Aroclor 1268	ND		ug Abs	0.500		1	Α			
PCBs, Total	ND		ug Abs	0.500		1	Α			

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria	Column			
2,4,5,6-Tetrachloro-m-xylene	69		30-150	Α			
Decachlorobiphenyl	97		30-150	Α			
2,4,5,6-Tetrachloro-m-xylene	65		30-150	В			
Decachlorobiphenyl	91		30-150	В			



Project Name: HOLYCROSS Lab Number: L1412645

Project Number: Not Specified Report Date: 06/12/14

SAMPLE RESULTS

Lab ID: Date Collected: 06/11/14 00:00

Client ID: WP-06 Date Received: 06/11/14

Sample Location: WORCESTER, MA Field Prep: Not Specified **Extraction Method: EPA 3540C** Matrix: Wipe 06/11/14 14:35 Analytical Method: 97,8082A **Extraction Date:** Analytical Date: 06/12/14 10:19 Cleanup Method1: EPA 3665A

Analyst: JT Cleanup Date1: 06/12/14 Cleanup Method2: EPA 3660B

Cleanup Metriod2. EPA 3660 Cleanup Date2: 06/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls	- Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500		1	А
Aroclor 1221	ND		ug Abs	0.500		1	Α
Aroclor 1232	ND		ug Abs	0.500		1	Α
Aroclor 1242	ND		ug Abs	0.500		1	Α
Aroclor 1248	ND		ug Abs	0.500		1	Α
Aroclor 1254	ND		ug Abs	0.500		1	Α
Aroclor 1260	ND		ug Abs	0.500		1	Α
Aroclor 1262	ND		ug Abs	0.500		1	Α
Aroclor 1268	ND		ug Abs	0.500		1	Α
PCBs, Total	ND		ug Abs	0.500		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		30-150	Α
Decachlorobiphenyl	110		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	80		30-150	В
Decachlorobiphenyl	105		30-150	В



Project Name: HOLYCROSS Lab Number: L1412645

Project Number: Not Specified Report Date: 06/12/14

SAMPLE RESULTS

Lab ID: Date Collected: 06/11/14 00:00

Client ID: WP-07 Date Received: 06/11/14 Sample Location: WORCESTER, MA Field Prep: Not Spec

Not Specified Matrix: Wipe **Extraction Method: EPA 3540C** Analytical Method: 97,8082A **Extraction Date:** 06/11/14 14:35 Analytical Date: 06/12/14 10:33 Cleanup Method1: **EPA 3665A** Analyst: JT Cleanup Date1: 06/12/14

Cleanup Method2: EPA 3660B Cleanup Date2: 06/12/14

Qualifier MDL **Dilution Factor Parameter** Result Units RLColumn MCP Polychlorinated Biphenyls - Westborough Lab Aroclor 1016 ND ug Abs 0.500 1 Α ND 0.500 Aroclor 1221 ug Abs 1 Α --Aroclor 1232 ND ug Abs 0.500 1 Α --ND 1 Aroclor 1242 ug Abs 0.500 Α ND 0.500 1 Α Aroclor 1248 ug Abs Aroclor 1254 ND ug Abs 0.500 1 Α Aroclor 1260 ND ug Abs 0.500 1 Α Aroclor 1262 ND ug Abs 0.500 1 Α --Aroclor 1268 ND ug Abs 0.500 --1 Α

ug Abs

0.500

--

1

Α

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria	Column			
2,4,5,6-Tetrachloro-m-xylene	96		30-150	Α			
Decachlorobiphenyl	105		30-150	Α			
2,4,5,6-Tetrachloro-m-xylene	90		30-150	В			
Decachlorobiphenyl	100		30-150	В			

ND



PCBs, Total

Project Name: HOLYCROSS Lab Number: L1412645

Project Number: Not Specified Report Date: 06/12/14

SAMPLE RESULTS

Lab ID: Date Collected: 06/11/14 00:00

Client ID: WP-08 Date Received: 06/11/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Wipe **Extraction Method: EPA 3540C** Analytical Method: 97,8082A **Extraction Date:** 06/11/14 14:35 Analytical Date: 06/12/14 10:46 Cleanup Method1: **EPA 3665A** Analyst: JT Cleanup Date1: 06/12/14

Cleanup Method2: EPA 3660B Cleanup Date2: 06/12/14

Qualifier MDL **Dilution Factor Parameter** Result Units RLColumn MCP Polychlorinated Biphenyls - Westborough Lab Aroclor 1016 ND ug Abs 0.500 1 Α ND 0.500 Aroclor 1221 ug Abs 1 Α --Aroclor 1232 ND ug Abs 0.500 1 Α --ND 1 Aroclor 1242 ug Abs 0.500 Α ND 0.500 1 Α Aroclor 1248 ug Abs Aroclor 1254 ND ug Abs 0.500 1 Α Aroclor 1260 ND ug Abs 0.500 1 Α Aroclor 1262 ND ug Abs 0.500 1 Α --Aroclor 1268 ND ug Abs 0.500 --1 Α PCBs, Total ND ug Abs 0.500 --1 Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	37		30-150	Α
Decachlorobiphenyl	89		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	35		30-150	В
Decachlorobiphenyl	84		30-150	В



06/12/14

Project Name: HOLYCROSS

CROSS Lab Number:

Report Date: 06/12/14

L1412645

Method Blank Analysis
Batch Quality Control

Analytical Method: Analytical Date:

Project Number:

97,8082A 06/12/14 11:00

Not Specified

Analyst:

JT

Extraction Method: EPA 3540C
Extraction Date: 06/11/14 14:35
Cleanup Method1: EPA 3665A
Cleanup Date1: 06/12/14

Cleanup Method2: EPA 3660B Cleanup Date2: 06/12/14

Parameter	Result	Qualifier	Units	RI	-	MDL	Column
MCP Polychlorinated Biphenyls -	- Westborough	Lab for sa	mple(s):	01-05	Batch:	WG69705	1-1
Aroclor 1016	ND		ug Abs	0.50	00		Α
Aroclor 1221	ND		ug Abs	0.50	00		А
Aroclor 1232	ND		ug Abs	0.50	00		Α
Aroclor 1242	ND		ug Abs	0.50	00		А
Aroclor 1248	ND		ug Abs	0.50	00		А
Aroclor 1254	ND		ug Abs	0.50	00		Α
Aroclor 1260	ND		ug Abs	0.50	00		Α
Aroclor 1262	ND		ug Abs	0.50	00		Α
Aroclor 1268	ND		ug Abs	0.50	00		А
PCBs, Total	ND		ug Abs	0.50	00		Α

		4	Acceptance)
Surrogate	%Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	В
2,4,5,6-Tetrachloro-m-xylene	73		30-150	Α
Decachlorobiphenyl	114		30-150	Α
Decachlorobiphenyl	108		30-150	В



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLYCROSS

Lab Number:

L1412645

Project Number: Not Specified

Report Date:

06/12/14

		LCS		LCS			6Recovery			RPD	
<u>Paramete</u>	r	%Recovery	Qual	%Rec	overy	Qual	Limits	RPD	Qual	Limits	Column
MCP Polyo	chlorinated Biphenyls - Westboroug	h Lab Assoc	iated sample(s):	01-05	Batch:	WG697051-2	2 WG697051-3				
Aroclor 1	1016	67		7	9		40-140	18		30	Α
Aroclor '	1260	91		10)2		40-140	11		30	Α

LCS		LCSD		Acceptance	
%Recovery	Qual	%Recovery	Qual	Criteria	Column
47		66		30-150	Α
106		119		30-150	Α
44		61		30-150	В
98		108		30-150	В
	%Recovery 47 106 44	%Recovery Qual 47 106 44	%Recovery Qual %Recovery 47 66 106 119 44 61	%Recovery Qual %Recovery Qual 47 66 119 44 61 61	%Recovery Qual %Recovery Qual Criteria 47 66 30-150 106 119 30-150 44 61 30-150



Project Name:HOLYCROSSLab Number:L1412645Project Number:Not SpecifiedReport Date:06/12/14

Sample Receipt and Container Information

Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1412645-01A	Amber 100ml Hexane preserved	Α	N/A	14.9	Υ	Absent	MCP-8082-10-3540C(365)
L1412645-02A	Amber 100ml Hexane preserved	Α	N/A	14.9	Υ	Absent	MCP-8082-10-3540C(365)
L1412645-03A	Amber 100ml Hexane preserved	Α	N/A	14.9	Υ	Absent	MCP-8082-10-3540C(365)
L1412645-04A	Amber 100ml Hexane preserved	Α	N/A	14.9	Υ	Absent	MCP-8082-10-3540C(365)
L1412645-05A	Amber 100ml Hexane preserved	Α	N/A	14.9	Υ	Absent	MCP-8082-10-3540C(365)



GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

Report Format: Data Usability Report



Data Qualifiers

- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- ${f P}$ The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:HOLYCROSSLab Number:L1412645Project Number:Not SpecifiedReport Date:06/12/14

REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, lodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl. EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene,

Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mq,Mn,Mo,Ni,K,Se,Aq,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



ANALYTICAL REPORT

Lab Number: L1427194

Client: Cooperstown Environmental LLC

23 Main Street

Andover, MA 01810-0814

ATTN: Richard Gang Phone: (978) 470-4755

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/20/14

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Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1427194 **Report Date:** 11/20/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1427194-01	PE-44	SOIL	WORCESTER, MA	11/11/14 10:10	11/12/14
L1427194-02	PE-45	SOLID	WORCESTER, MA	11/11/14 10:09	11/12/14
L1427194-03	PE-46	SOLID	WORCESTER, MA	11/11/14 09:33	11/12/14
L1427194-04	PE-47	SOLID	WORCESTER, MA	11/11/14 10:08	11/12/14
L1427194-05	PE-48	SOLID	WORCESTER, MA	11/11/14 10:07	11/12/14
L1427194-06	PE-49	SOLID	WORCESTER, MA	11/11/14 09:36	11/12/14
L1427194-07	PE-50	SOLID	WORCESTER, MA	11/11/14 09:29	11/12/14
L1427194-08	PE-51	SOLID	WORCESTER, MA	11/11/14 09:17	11/12/14
L1427194-09	PE-52	SOLID	WORCESTER, MA	11/11/14 09:20	11/12/14
L1427194-10	PE-53	SOLID	WORCESTER, MA	11/11/14 09:24	11/12/14
L1427194-11	PE-54	SOLID	WORCESTER, MA	11/11/14 09:41	11/12/14
L1427194-12	PE-55	SOLID	WORCESTER, MA	11/11/14 09:44	11/12/14
L1427194-13	PE-56	SOLID	WORCESTER, MA	11/11/14 09:46	11/12/14
L1427194-14	PE-57	SOLID	WORCESTER, MA	11/11/14 09:38	11/12/14
L1427194-15	PE-58	SOLID	WORCESTER, MA	11/11/14 09:39	11/12/14
L1427194-16	PE-59	SOLID	WORCESTER, MA	11/11/14 09:40	11/12/14
L1427194-17	PE-60	SOLID	WORCESTER, MA	11/11/14 09:52	11/12/14
L1427194-18	PE-61	SOLID	WORCESTER, MA	11/11/14 09:50	11/12/14
L1427194-19	PE-62	SOLID	WORCESTER, MA	11/11/14 09:48	11/12/14
L1427194-20	PE-63	SOLID	WORCESTER, MA	11/11/14 10:04	11/12/14
L1427194-21	PE-64	SOLID	WORCESTER, MA	11/11/14 09:59	11/12/14
L1427194-22	PE-65	SOLID	WORCESTER, MA	11/11/14 09:58	11/12/14
L1427194-23	PE-244	SOIL	WORCESTER, MA	11/11/14 10:10	11/12/14
Page 71941248	PE-246	SOLID	WORCESTER, MA	11/11/14 09:33	11/12/14



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
Α	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A re	A response to questions G, H and I is required for "Presumptive Certainty" status							
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO						
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO						
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO						

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

Case Narrative (continued)

MCP Related Narratives

PCBs

L1427194-24 has elevated detection limits due to the dilution required by matrix interferences encountered during the concentration of the sample.

In reference to question G:

L1427194-24: One or more of the target analytes did not achieve the requested CAM reporting limits. In reference to question H:

The surrogate recoveries for L1427194-12 were outside the acceptance criteria for 2,4,5,6-tetrachloro-m-xylene (20%/21%) and decachlorobiphenyl (29%); however, re-extraction achieved similar results: 2,4,5,6-tetrachloro-m-xylene (17%/20%) and decachlorobiphenyl (14%19%). The results of both extractions are reported; however, all associated compounds are considered to have a potential bias.

The surrogate recoveries for L1427194-17 were outside the acceptance criteria for 2,4,5,6-tetrachloro-m-xylene (24%/26%); however, re-extraction achieved similar results: 2,4,5,6-tetrachloro-m-xylene (6%/8%) and decachlorobiphenyl (10%/10%). The results of both extractions are reported; however, all associated compounds are considered to have a potential bias.

The surrogate recoveries for L1427194-24 were outside the acceptance criteria for decachlorobiphenyl (15%/16%); however, re-extraction achieved similar results: decachlorobiphenyl (21%/22%). The results of both extractions are reported; however, all associated compounds are considered to have a potential bias.

Metals

In reference to question H:

The WG740317-3 LCSD recovery, associated with L1427194-01 through -20, is outside the acceptance criteria for lead (78%). Re-analysis of the LCSD yielded an unacceptable recovery of 76%. The LCS recovery was within acceptance criteria for this analyte; therefore, no further action was taken.

The WG740085-4 MS recovery, performed on L1427194-01, is outside the acceptance criteria for mercury (139%). Re-analysis of the MS yielded an unacceptable recovery for mecury in the range of 30-74% or >125%. The LCS recovery was within acceptance criteria for these analytes; therefore, no further action was taken.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Project Number: L1420/44

Project Number: Not Specified Report Date: 11/20/14

Case Narrative (continued)

The WG740086-4 MS recovery, performed on L1427194-03, is outside the acceptance criteria for mercury (140%). Re-analysis of the MS yielded an unacceptable recovery for mercury in the range of 30-74% or >125%. The LCS recovery was within acceptance criteria for these analytes; therefore, no further action was taken.

The WG740317-4 MS recoveries, performed on L1427194-01, are outside the acceptance criteria for cadmium (72%), lead (66%), and selenium (71%). Re-analysis of the MS yielded unacceptable recoveries for cadmium (72%), lead (66%), and selenium (72%). The LCS recoveries were within acceptance criteria for these analytes; therefore, no further action was taken.

The WG740317-7 MS recoveries, performed on L1427194-03, are outside the acceptance criteria for cadmium (71%), chromium (68%), and lead (67%). Re-analysis of the MS yielded unacceptable recoveries for cadmium (69%), chromium (68%), and lead (65%). The LCS recoveries were within acceptance criteria for these analytes; therefore, no further action was taken.

The WG740317-6 serial dilution analysis, associated with L1427194-01, had a %D above the acceptance criteria for barium and chromium (both at 67%).

The WG740317-9 serial dilution analysis, associated with L1427194-03, had a %D above the acceptance criteria for barium (62%).

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Casten Walker Cristin Walker

Authorized Signature:

Title: Technical Director/Representative

ALPHA

Date: 11/20/14

ORGANICS



PCBS



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 10:10

Client ID: PE-44 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/14/14 07:42
Analytical Date: 11/18/14 06:40 Cleanup Method: EPA 3665A

Analyst: KB Cleanup Date: 11/17/14
Percent Solids: 91% Cleanup Method: EPA 3660B
Cleanup Date: 11/17/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Wes	stborough Lab						
A 1040	ND			05.0		,	
Aroclor 1016	ND		ug/kg	35.3		1	Α
Aroclor 1221	ND		ug/kg	35.3		1	Α
Aroclor 1232	ND		ug/kg	35.3		1	Α
Aroclor 1242	ND		ug/kg	35.3		1	Α
Aroclor 1248	ND		ug/kg	35.3		1	Α
Aroclor 1254	ND		ug/kg	35.3		1	В
Aroclor 1260	ND		ug/kg	35.3		1	Α
Aroclor 1262	ND		ug/kg	35.3		1	Α
Aroclor 1268	ND		ug/kg	35.3		1	Α
PCBs, Total	ND		ug/kg	35.3		1	Α

	Acceptance							
Surrogate	% Recovery	Qualifier	Criteria	Column				
2,4,5,6-Tetrachloro-m-xylene	72		30-150	Α				
Decachlorobiphenyl	77		30-150	Α				
2,4,5,6-Tetrachloro-m-xylene	85		30-150	В				
Decachlorobiphenyl	75		30-150	В				



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 10:09

Client ID: PE-45 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specification

Output

Date Received: 11/12/14

Not Specification: Not Specification

Output

Date Received: 11/12/14

Output

Dat

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SolidExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/14/14 15:10Analytical Date:11/18/14 06:44Cleanup Method:EPA 3665A

Analyst: KB Cleanup Date: 11/17/14
Percent Solids: 87% Cleanup Method: EPA 3660B
Cleanup Date: 11/17/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Bipheny	ls - Westborough Lab						
Aroclor 1016	ND		ug/kg	66.7		1	Α
Aroclor 1221	ND		ug/kg	66.7		1	Α
Aroclor 1232	ND		ug/kg	66.7		1	Α
Aroclor 1242	ND		ug/kg	66.7		1	А
Aroclor 1248	ND		ug/kg	44.5		1	Α
Aroclor 1254	ND		ug/kg	66.7		1	А
Aroclor 1260	167		ug/kg	44.5		1	Α
Aroclor 1262	ND		ug/kg	22.2		1	Α
Aroclor 1268	ND		ug/kg	22.2		1	Α
PCBs, Total	167		ug/kg	22.2		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	35		30-150	Α
Decachlorobiphenyl	55		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	32		30-150	В
Decachlorobiphenyl	50		30-150	В



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-03 Date Collected: 11/11/14 09:33

Client ID: PE-46 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Speci

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SolidExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/14/14 15:10Analytical Date:11/18/14 06:30Cleanup Method:EPA 3665A

Analyst: KB Cleanup Date: 11/17/14
Percent Solids: 89% Cleanup Method: EPA 3660B
Cleanup Date: 11/17/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Bipheny	rls - Westborough Lab						
Aroclor 1016	ND		ug/kg	62.2		1	Α
Aroclor 1221	ND		ug/kg	62.2		1	Α
Aroclor 1232	ND		ug/kg	62.2		1	Α
Aroclor 1242	ND		ug/kg	62.2		1	Α
Aroclor 1248	ND		ug/kg	41.5		1	Α
Aroclor 1254	ND		ug/kg	62.2		1	Α
Aroclor 1260	ND		ug/kg	41.5		1	Α
Aroclor 1262	ND		ug/kg	20.7		1	Α
Aroclor 1268	ND		ug/kg	20.7		1	Α
PCBs, Total	ND		ug/kg	20.7		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	35		30-150	Α
Decachlorobiphenyl	46		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	31		30-150	В
Decachlorobiphenyl	43		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 10:08

Client ID: PE-47 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/18/14 16:36
Analytical Date: 11/19/14 14:47 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/19/14
Percent Solids: 93% Cleanup Method: EPA 3660B
Cleanup Date: 11/19/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Bipheny	ls - Westborough Lab						
Aroclor 1016	ND		ug/kg	57.4		1	Α
Aroclor 1221	ND		ug/kg	57.4		1	Α
Aroclor 1232	ND		ug/kg	57.4		1	Α
Aroclor 1242	ND		ug/kg	57.4		1	Α
Aroclor 1248	ND		ug/kg	38.3		1	Α
Aroclor 1254	ND		ug/kg	57.4		1	Α
Aroclor 1260	43.2		ug/kg	38.3		1	Α
Aroclor 1262	ND		ug/kg	19.1		1	Α
Aroclor 1268	ND		ug/kg	19.1		1	Α
PCBs, Total	43.2		ug/kg	19.1		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	53		30-150	Α
Decachlorobiphenyl	66		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	50		30-150	В
Decachlorobiphenyl	72		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-05 Date Collected: 11/11/14 10:07

Client ID: PE-48 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/18/14 16:36
Analytical Date: 11/19/14 14:59 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/19/14
Percent Solids: 93% Cleanup Method: EPA 3660B
Cleanup Date: 11/19/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column		
MCP Polychlorinated Biphenyls - Westborough Lab									
Aroclor 1016	ND		ug/kg	55.8		1	Α		
Aroclor 1221	ND		ug/kg	55.8		1	Α		
Aroclor 1232	ND		ug/kg	55.8		1	Α		
Aroclor 1242	ND		ug/kg	55.8		1	Α		
Aroclor 1248	ND		ug/kg	37.2		1	Α		
Aroclor 1254	ND		ug/kg	55.8		1	Α		
Aroclor 1260	ND		ug/kg	37.2		1	Α		
Aroclor 1262	ND		ug/kg	18.6		1	Α		
Aroclor 1268	ND		ug/kg	18.6		1	Α		
PCBs, Total	ND		ug/kg	18.6		1	Α		

	Acceptance							
Surrogate	% Recovery	Qualifier	Criteria	Column				
2,4,5,6-Tetrachloro-m-xylene	52		30-150	А				
Decachlorobiphenyl	58		30-150	Α				
2,4,5,6-Tetrachloro-m-xylene	50		30-150	В				
Decachlorobiphenyl	71		30-150	В				



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:36

Client ID: PE-49 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/18/14 15:12 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/19/14
Percent Solids: 89% Cleanup Method: EPA 3660B
Cleanup Date: 11/19/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column		
MCP Polychlorinated Biphenyls - Westborough Lab									
Aroclor 1016	ND		ug/kg	58.2		1	Α		
Aroclor 1221	ND		ug/kg	58.2		1	Α		
Aroclor 1232	ND		ug/kg	58.2		1	Α		
Aroclor 1242	ND		ug/kg	58.2		1	Α		
Aroclor 1248	ND		ug/kg	38.8		1	Α		
Aroclor 1254	ND		ug/kg	58.2		1	Α		
Aroclor 1260	198		ug/kg	38.8		1	В		
Aroclor 1262	ND		ug/kg	19.4		1	Α		
Aroclor 1268	ND		ug/kg	19.4		1	Α		
PCBs, Total	198		ug/kg	19.4		1	Α		

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	39		30-150	A
Decachlorobiphenyl	54		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	47		30-150	В
Decachlorobiphenyl	65		30-150	В



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:29

Client ID: PE-50 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Extraction Method: EPA 3540C Matrix: Solid Analytical Method: 97,8082A **Extraction Date:** 11/18/14 16:36 Analytical Date: 11/19/14 15:24 Cleanup Method: EPA 3665A Analyst: JT Cleanup Date: 11/19/14

Percent Solids: 90% Cleanup Method: EPA 3660B Cleanup Date: 11/19/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Bipheny	yls - Westborough Lab						
Aroclor 1016	ND		ug/kg	60.2		1	Α
Aroclor 1221	ND		ug/kg	60.2		1	Α
Aroclor 1232	ND		ug/kg	60.2		1	Α
Aroclor 1242	ND		ug/kg	60.2		1	Α
Aroclor 1248	ND		ug/kg	40.1		1	Α
Aroclor 1254	ND		ug/kg	60.2		1	Α
Aroclor 1260	53.8		ug/kg	40.1		1	В
Aroclor 1262	ND		ug/kg	20.1		1	Α
Aroclor 1268	ND		ug/kg	20.1		1	Α
PCBs, Total	53.8		ug/kg	20.1		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	39		30-150	Α
Decachlorobiphenyl	49		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	54		30-150	В
Decachlorobiphenyl	69		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:17

Client ID: PE-51 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/14/14 15:10
Analytical Date: 11/18/14 07:53 Cleanup Method: EPA 3665A

Analyst: KB Cleanup Date: 11/17/14
Percent Solids: 91% Cleanup Method: EPA 3660B
Cleanup Date: 11/17/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column		
MCP Polychlorinated Biphenyls - Westborough Lab									
Aroclor 1016	ND		ug/kg	63.0		1	Α		
Aroclor 1221	ND		ug/kg	63.0		1	Α		
Aroclor 1232	ND		ug/kg	63.0		1	Α		
Aroclor 1242	ND		ug/kg	63.0		1	Α		
Aroclor 1248	ND		ug/kg	42.0		1	Α		
Aroclor 1254	ND		ug/kg	63.0		1	Α		
Aroclor 1260	ND		ug/kg	42.0		1	В		
Aroclor 1262	ND		ug/kg	21.0		1	Α		
Aroclor 1268	ND		ug/kg	21.0		1	Α		
PCBs, Total	ND		ug/kg	21.0		1	А		

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	30		30-150	А
Decachlorobiphenyl	31		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	30		30-150	В
Decachlorobiphenyl	30		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:20

Client ID: PE-52 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid **Extraction Method: EPA 3540C** Analytical Method: 97,8082A **Extraction Date:** 11/14/14 15:10 Analytical Date: 11/18/14 08:06 Cleanup Method: **EPA 3665A** KΒ Analyst: Cleanup Date: 11/17/14

Percent Solids: 90% Cleanup Method: EPA 3660B Cleanup Date: 11/17/14

Qualifier MDL **Parameter** Result Units RL**Dilution Factor** Column MCP Polychlorinated Biphenyls - Westborough Lab ND 1 Aroclor 1016 ug/kg 61.9 Α ND Aroclor 1221 61.9 1 Α ug/kg Aroclor 1232 ND 61.9 1 Α ug/kg --Aroclor 1242 ND 61.9 1 Α ug/kg --ND 1 Aroclor 1248 ug/kg 41.2 Α 1 ND Α Aroclor 1254 61.9 ug/kg --Aroclor 1260 148 ug/kg 41.2 1 Α Aroclor 1262 ND 20.6 1 Α ug/kg Aroclor 1268 ND 20.6 1 Α ug/kg --PCBs, Total 148 20.6 1 Α -ug/kg

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	35		30-150	Α
Decachlorobiphenyl	48		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	31		30-150	В
Decachlorobiphenyl	45		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:24

Client ID: PE-53 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/14/14 15:10
Analytical Date: 11/18/14 08:20 Cleanup Method: EPA 3665A
Analyst: KB Cleanup Date: 11/17/14

Analyst: KB Cleanup Date: 11/17/14
Percent Solids: 90% Cleanup Method: EPA 3660B
Cleanup Date: 11/17/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - We	estborough Lab						
A 1010	NB		4	20.4			
Aroclor 1016	ND		ug/kg	60.4		1	Α
Aroclor 1221	ND		ug/kg	60.4		1	Α
Aroclor 1232	ND		ug/kg	60.4		1	Α
Aroclor 1242	ND		ug/kg	60.4		1	Α
Aroclor 1248	ND		ug/kg	40.3		1	Α
Aroclor 1254	ND		ug/kg	60.4		1	Α
Aroclor 1260	99.9		ug/kg	40.3		1	В
Aroclor 1262	ND		ug/kg	20.1		1	Α
Aroclor 1268	ND		ug/kg	20.1		1	Α
PCBs, Total	99.9		ug/kg	20.1		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	40		30-150	Α
Decachlorobiphenyl	58		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	37		30-150	В
Decachlorobiphenyl	53		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-11 Date Collected: 11/11/14 09:41

Client ID: PE-54 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/14/14 15:10
Analytical Date: 11/18/14 08:34 Cleanup Method: EPA 3665A

Analyst: KB Cleanup Date: 11/17/14
Percent Solids: 90% Cleanup Method: EPA 3660B
Cleanup Date: 11/17/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column	
MCP Polychlorinated Biphenyls - Westborough Lab								
Aroclor 1016	ND		ug/kg	62.6		1	Α	
Aroclor 1221	ND		ug/kg	62.6		1	Α	
Aroclor 1232	ND		ug/kg	62.6		1	Α	
Aroclor 1242	ND		ug/kg	62.6		1	Α	
Aroclor 1248	ND		ug/kg	41.7		1	Α	
Aroclor 1254	ND		ug/kg	62.6		1	Α	
Aroclor 1260	59.7		ug/kg	41.7		1	В	
Aroclor 1262	ND		ug/kg	20.9		1	Α	
Aroclor 1268	ND		ug/kg	20.9		1	Α	
PCBs, Total	59.7		ug/kg	20.9		1	Α	

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	33		30-150	Α
Decachlorobiphenyl	43		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	33		30-150	В
Decachlorobiphenyl	45		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:44

Client ID: PE-55 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/14/14 15:10
Analytical Date: 11/18/14 08:48 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/17/14
Percent Solids: 92% Cleanup Method: EPA 3660B
Cleanup Date: 11/17/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column	
MCP Polychlorinated Biphenyls - Westborough Lab								
Aroclor 1016	ND		ug/kg	63.7		1	Α	
Aroclor 1221	ND		ug/kg	63.7		1	Α	
Aroclor 1232	ND		ug/kg	63.7		1	Α	
Aroclor 1242	ND		ug/kg	63.7		1	Α	
Aroclor 1248	ND		ug/kg	42.5		1	Α	
Aroclor 1254	ND		ug/kg	63.7		1	Α	
Aroclor 1260	ND		ug/kg	42.5		1	Α	
Aroclor 1262	ND		ug/kg	21.2		1	Α	
Aroclor 1268	ND		ug/kg	21.2		1	Α	
PCBs, Total	ND		ug/kg	21.2		1	Α	

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	20	Q	30-150	Α
Decachlorobiphenyl	29	Q	30-150	Α
2,4,5,6-Tetrachloro-m-xylene	21	Q	30-150	В
Decachlorobiphenyl	30		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-12 RE Date Collected: 11/11/14 09:44

Client ID: PE-55

Sample Location: WORCESTER, MA

Matrix: Solid
Analytical Method: 97,8082A
Analytical Date: 11/19/14 15:37

Analyst: JT Percent Solids: 92% Date Collected: 11/11/14 09:44 Date Received: 11/12/14 Field Prep: Not Specified Extraction Method: EPA 3540C **Extraction Date:** 11/18/14 16:36 Cleanup Method: EPA 3665A Cleanup Date: 11/19/14 Cleanup Method: EPA 3660B Cleanup Date: 11/19/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls -	Westborough Lab						
Aroclor 1016	ND		ug/kg	64.6		1	Α
Aroclor 1221	ND		ug/kg	64.6		1	Α
Aroclor 1232	ND		ug/kg	64.6		1	Α
Aroclor 1242	ND		ug/kg	64.6		1	Α
Aroclor 1248	ND		ug/kg	43.1		1	Α
Aroclor 1254	ND		ug/kg	64.6		1	Α
Aroclor 1260	ND		ug/kg	43.1		1	Α
Aroclor 1262	ND		ug/kg	21.5		1	Α
Aroclor 1268	ND		ug/kg	21.5		1	Α
PCBs, Total	ND		ug/kg	21.5		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	17	Q	30-150	A
Decachlorobiphenyl	14	Q	30-150	Α
2,4,5,6-Tetrachloro-m-xylene	20	Q	30-150	В
Decachlorobiphenyl	19	Q	30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-13 Date Collected: 11/11/14 09:46

Client ID: PE-56 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Speci

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SolidExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/18/14 16:36

Analytical Date: 11/19/14 15:49 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/19/14
Percent Solids: 94% Cleanup Method: EPA 3660B
Cleanup Date: 11/19/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column	
MCP Polychlorinated Biphenyls - Westborough Lab								
Appellant 4040	ND			50.0		_		
Aroclor 1016	ND		ug/kg	59.3		1	Α	
Aroclor 1221	ND		ug/kg	59.3		1	Α	
Aroclor 1232	ND		ug/kg	59.3		1	Α	
Aroclor 1242	ND		ug/kg	59.3		1	Α	
Aroclor 1248	ND		ug/kg	39.5		1	Α	
Aroclor 1254	ND		ug/kg	59.3		1	Α	
Aroclor 1260	ND		ug/kg	39.5		1	В	
Aroclor 1262	ND		ug/kg	19.8		1	Α	
Aroclor 1268	ND		ug/kg	19.8		1	Α	
PCBs, Total	ND		ug/kg	19.8		1	Α	

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	48		30-150	Α
Decachlorobiphenyl	44		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	59		30-150	В
Decachlorobiphenyl	52		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-14 Date Collected: 11/11/14 09:38

Client ID: PE-57 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/18/14 16:36
Analytical Date: 11/19/14 16:01 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/19/14

Percent Solids: 89% Cleanup Method: EPA 3660B

Cleanup Date: 11/19/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column		
MCP Polychlorinated Biphenyls - Westborough Lab									
Aroclor 1016	ND		ug/kg	64.1		1	Α		
Aroclor 1221	ND		ug/kg	64.1		1	Α		
Aroclor 1232	ND		ug/kg	64.1		1	Α		
Aroclor 1242	ND		ug/kg	64.1		1	Α		
Aroclor 1248	ND		ug/kg	42.7		1	Α		
Aroclor 1254	ND		ug/kg	64.1		1	Α		
Aroclor 1260	ND		ug/kg	42.7		1	Α		
Aroclor 1262	ND		ug/kg	21.4		1	Α		
Aroclor 1268	ND		ug/kg	21.4		1	Α		
PCBs, Total	ND		ug/kg	21.4		1	А		

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	33		30-150	Α
Decachlorobiphenyl	48		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	35		30-150	В
Decachlorobiphenyl	55		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:39

Client ID: PE-58 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/18/14 17:03 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/19/14

Percent Solids: 92% Cleanup Method: EPA 3660B

Cleanup Date: 11/19/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls	- Westborough Lab						
	ND		4	50.0		,	
Aroclor 1016	ND		ug/kg	56.6		1	Α
Aroclor 1221	ND		ug/kg	56.6		1	Α
Aroclor 1232	ND		ug/kg	56.6		1	Α
Aroclor 1242	ND		ug/kg	56.6		1	А
Aroclor 1248	ND		ug/kg	37.7		1	Α
Aroclor 1254	ND		ug/kg	56.6		1	Α
Aroclor 1260	181		ug/kg	37.7		1	Α
Aroclor 1262	ND		ug/kg	18.8		1	Α
Aroclor 1268	ND		ug/kg	18.8		1	А
PCBs, Total	181		ug/kg	18.8		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	Α
Decachlorobiphenyl	65		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	63		30-150	В
Decachlorobiphenyl	79		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:40

Client ID: PE-59 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Speci

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SolidExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/14/14 15:10

Analytical Date: 11/18/14 09:43 Cleanup Method: EPA 3665A
Analyst: KB Cleanup Date: 11/17/14
Percent Solids: 89% Cleanup Method: EPA 3660B
Cleanup Date: 11/17/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column			
MCP Polychlorinated Biphenyls - Westborough Lab										
Aroclor 1016	ND		ug/kg	61.0		1	Α			
Aroclor 1221	ND		ug/kg	61.0		1	Α			
Aroclor 1232	ND		ug/kg	61.0		1	Α			
Aroclor 1242	ND		ug/kg	61.0		1	Α			
Aroclor 1248	ND		ug/kg	40.7		1	Α			
Aroclor 1254	ND		ug/kg	61.0		1	Α			
Aroclor 1260	119		ug/kg	40.7		1	Α			
Aroclor 1262	ND		ug/kg	20.4		1	Α			
Aroclor 1268	ND		ug/kg	20.4		1	Α			
PCBs, Total	119		ug/kg	20.4		1	Α			

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	30		30-150	Α
Decachlorobiphenyl	47		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	28	Q	30-150	В
Decachlorobiphenyl	41		30-150	В



11/17/14

Cleanup Date:

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:52

Client ID: PE-60 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/14/14 15:10

Analytical Date: 11/18/14 09:57 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/17/14
Percent Solids: 94% Cleanup Method: EPA 3660B

Qualifier MDL **Parameter** Result Units RL**Dilution Factor** Column MCP Polychlorinated Biphenyls - Westborough Lab ND 1 Aroclor 1016 ug/kg 55.1 Α ND Aroclor 1221 55.1 1 Α ug/kg Aroclor 1232 ND 55.1 1 Α ug/kg --Aroclor 1242 ND 55.1 1 Α ug/kg --ND 1 Aroclor 1248 ug/kg 36.7 Α 1 ND 55.1 Α Aroclor 1254 ug/kg --Aroclor 1260 ND ug/kg 36.7 1 В Aroclor 1262 ND 18.4 1 Α ug/kg Aroclor 1268 ND 18.4 1 Α ug/kg --PCBs, Total ND 36.7 1 В -ug/kg

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	24	Q	30-150	Α
Decachlorobiphenyl	35		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	26	Q	30-150	В
Decachlorobiphenyl	36		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-17 RE Date Collected: 11/11/14 09:52

Client ID: PE-60

Sample Location: WORCESTER, MA

Matrix: Solid
Analytical Method: 97,8082A
Analytical Date: 11/19/14 17:16

Analyst: JT Percent Solids: 94% Date Collected: 11/11/14 09:52 Date Received: 11/12/14 Field Prep: Not Specified Extraction Method: EPA 3540C **Extraction Date:** 11/18/14 16:36 Cleanup Method: EPA 3665A Cleanup Date: 11/19/14 Cleanup Method: EPA 3660B Cleanup Date: 11/19/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - V	Vestborough Lab						
Aroclor 1016	ND		ug/kg	61.5		1	Α
Aroclor 1221	ND		ug/kg	61.5		1	Α
Aroclor 1232	ND		ug/kg	61.5		1	Α
Aroclor 1242	ND		ug/kg	61.5		1	Α
Aroclor 1248	ND		ug/kg	41.0		1	Α
Aroclor 1254	ND		ug/kg	61.5		1	Α
Aroclor 1260	ND		ug/kg	41.0		1	А
Aroclor 1262	ND		ug/kg	20.5		1	Α
Aroclor 1268	ND		ug/kg	20.5		1	Α
PCBs, Total	ND		ug/kg	20.5		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	6	Q	30-150	Α
Decachlorobiphenyl	10	Q	30-150	Α
2,4,5,6-Tetrachloro-m-xylene	8	Q	30-150	В
Decachlorobiphenyl	10	Q	30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:50

Client ID: PE-61 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/18/14 16:36
Analytical Date: 11/19/14 17:28 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/19/14
Percent Solids: 94% Cleanup Method: EPA 3660B
Cleanup Date: 11/19/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Bipheny	yls - Westborough Lab						
Aroclor 1016	ND		ug/kg	60.2		1	Α
Aroclor 1221	ND		ug/kg	60.2		1	Α
Aroclor 1232	ND		ug/kg	60.2		1	Α
Aroclor 1242	ND		ug/kg	60.2		1	Α
Aroclor 1248	ND		ug/kg	40.1		1	Α
Aroclor 1254	ND		ug/kg	60.2		1	Α
Aroclor 1260	1080		ug/kg	40.1		1	В
Aroclor 1262	ND		ug/kg	20.1		1	Α
Aroclor 1268	ND		ug/kg	20.1		1	Α
PCBs, Total	1080		ug/kg	20.1		1	Α

	Acceptance							
Surrogate	% Recovery	Qualifier	Criteria	Column				
2,4,5,6-Tetrachloro-m-xylene	65		30-150	Α				
Decachlorobiphenyl	61		30-150	Α				
2,4,5,6-Tetrachloro-m-xylene	74		30-150	В				
Decachlorobiphenyl	81		30-150	В				



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:48

Client ID: PE-62 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Speci

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SolidExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/14/14 15:10Analytical Date:11/18/14 10:54Cleanup Method:EPA 3665A

Analyst: KB Cleanup Date: 11/17/14
Percent Solids: 90% Cleanup Date: 11/17/14
Cleanup Method: EPA 3660B
Cleanup Date: 11/17/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Bipheny	ls - Westborough Lab						
Aroclor 1016	ND		ug/kg	58.9		1	Α
Aroclor 1221	ND		ug/kg	58.9		1	Α
Aroclor 1232	ND		ug/kg	58.9		1	Α
Aroclor 1242	ND		ug/kg	58.9		1	Α
Aroclor 1248	ND		ug/kg	39.3		1	Α
Aroclor 1254	ND		ug/kg	58.9		1	А
Aroclor 1260	134		ug/kg	39.3		1	В
Aroclor 1262	ND		ug/kg	19.6		1	Α
Aroclor 1268	ND		ug/kg	19.6		1	Α
PCBs, Total	134		ug/kg	19.6		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	38		30-150	Α
Decachlorobiphenyl	49		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	35		30-150	В
Decachlorobiphenyl	48		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 10:04

Client ID: PE-63 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Extraction Method: Matrix: Solid **EPA 3540C** Analytical Method: 97,8082A **Extraction Date:** 11/14/14 15:10 Analytical Date: 11/18/14 11:08 Cleanup Method: **EPA 3665A** Analyst: KΒ Cleanup Date: 11/17/14 90% **EPA 3660B**

Percent Solids: 90% Cleanup Method: EPA 366 Cleanup Date: 11/17/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - We	estborough Lab						
Aroclor 1016	ND		ug/kg	58.3		1	Α
Aroclor 1221	ND		ug/kg	58.3		1	Α
Aroclor 1232	ND		ug/kg	58.3		1	Α
Aroclor 1242	ND		ug/kg	58.3		1	Α
Aroclor 1248	ND		ug/kg	38.9		1	Α
Aroclor 1254	ND		ug/kg	58.3		1	Α
Aroclor 1260	ND		ug/kg	38.9		1	Α
Aroclor 1262	ND		ug/kg	19.4		1	Α
Aroclor 1268	ND		ug/kg	19.4		1	А
PCBs, Total	ND		ug/kg	19.4		1	А

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	31		30-150	Α
Decachlorobiphenyl	43		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	30		30-150	В
Decachlorobiphenyl	41		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:59

Client ID: PE-64 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Speci

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SolidExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/18/14 16:36

Analytical Date: 11/19/14 17:40 Cleanup Method: EPA 3665A Analyst: JT Cleanup Date: 11/19/14 Percent Solids: 92% Cleanup Method: EPA 3660B

Cleanup Date: 11/19/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - W	estborough Lab						
Aroclor 1016	ND		ug/kg	60.4		1	Α
Aroclor 1221	ND		ug/kg	60.4		1	Α
Aroclor 1232	ND		ug/kg	60.4		1	Α
Aroclor 1242	ND		ug/kg	60.4		1	Α
Aroclor 1248	ND		ug/kg	40.3		1	Α
Aroclor 1254	ND		ug/kg	60.4		1	Α
Aroclor 1260	62.5		ug/kg	40.3		1	В
Aroclor 1262	ND		ug/kg	20.1		1	Α
Aroclor 1268	ND		ug/kg	20.1		1	Α
PCBs, Total	62.5		ug/kg	20.1		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	58		30-150	Α
Decachlorobiphenyl	63		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	58		30-150	В
Decachlorobiphenyl	69		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-22 Date Collected: 11/11/14 09:58

Client ID: PE-65 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid **Extraction Method:** EPA 3540C Analytical Method: 97,8082A **Extraction Date:** 11/19/14 03:05 Analytical Date: 11/20/14 09:25 Cleanup Method: **EPA 3665A** JW Analyst: Cleanup Date: 11/20/14

Percent Solids: 91% Cleanup Method: EPA 3660B Cleanup Date: 11/20/14

Qualifier MDL **Parameter** Result Units RL**Dilution Factor** Column MCP Polychlorinated Biphenyls - Westborough Lab ND 1 Aroclor 1016 ug/kg 62.2 Α ND Aroclor 1221 62.2 1 Α ug/kg Aroclor 1232 ND 62.2 1 Α ug/kg --Aroclor 1242 ND 62.2 1 Α ug/kg -ug/kg 1 Aroclor 1248 ND 41.4 Α 1 ND 62.2 Α Aroclor 1254 ug/kg --Aroclor 1260 ND ug/kg 41.4 1 Α Aroclor 1262 ND 20.7 1 Α ug/kg Aroclor 1268 ND 20.7 1 Α ug/kg --PCBs, Total ND 20.7 1 Α -ug/kg

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	40		30-150	А
Decachlorobiphenyl	70		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	45		30-150	В
Decachlorobiphenyl	87		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-23 Date Collected: 11/11/14 10:10

Client ID: PE-244 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/14/14 07:42
Analytical Date: 11/18/14 06:52 Cleanup Method: EPA 3665A

Analyst: KB Cleanup Date: 11/17/14
Percent Solids: 91% Cleanup Method: EPA 3660B
Cleanup Date: 11/17/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls	s - Westborough Lab						
	ND		4	24.2		,	
Aroclor 1016	ND		ug/kg	34.8		1	Α
Aroclor 1221	ND		ug/kg	34.8		1	Α
Aroclor 1232	ND		ug/kg	34.8		1	Α
Aroclor 1242	ND		ug/kg	34.8		1	Α
Aroclor 1248	ND		ug/kg	34.8		1	Α
Aroclor 1254	124		ug/kg	34.8		1	В
Aroclor 1260	ND		ug/kg	34.8		1	В
Aroclor 1262	ND		ug/kg	34.8		1	Α
Aroclor 1268	ND		ug/kg	34.8		1	А
PCBs, Total	124		ug/kg	34.8		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	52		30-150	Α
Decachlorobiphenyl	56		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	62		30-150	В
Decachlorobiphenyl	55		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:33

Client ID: PE-246 Date Received: 11/12/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/14/14 15:25
Analytical Date: 11/18/14 05:38 Cleanup Method: EPA 3665A
Analyst: IW Cleanup Date: 11/17/14

Analyst: JW Cleanup Date: 11/17/14
Percent Solids: 88% Cleanup Method: EPA 3660B
Cleanup Date: 11/17/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Wes	stborough Lab						
Aroclor 1016	ND		ug/kg	171		3	Α
Aroclor 1221	ND		ug/kg	171		3	Α
Aroclor 1232	ND		ug/kg	171		3	Α
Aroclor 1242	ND		ug/kg	171		3	Α
Aroclor 1248	ND		ug/kg	114		3	Α
Aroclor 1254	ND		ug/kg	171		3	Α
Aroclor 1260	ND		ug/kg	114		3	Α
Aroclor 1262	ND		ug/kg	57.1		3	Α
Aroclor 1268	ND		ug/kg	57.1		3	Α
PCBs, Total	ND		ug/kg	57.1		3	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	29	Q	30-150	Α
Decachlorobiphenyl	15	Q	30-150	Α
2,4,5,6-Tetrachloro-m-xylene	30		30-150	В
Decachlorobiphenyl	16	Q	30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-24 RE Date Collected: 11/11/14 09:33

Client ID: PE-246

Sample Location: WORCESTER, MA

Matrix: Solid
Analytical Method: 97,8082A
Analytical Date: 11/20/14 09:42

Analyst: JW Percent Solids: 88%

Date Received: 11/12/14 Field Prep: Not Specified Extraction Method: EPA 3540C **Extraction Date:** 11/19/14 03:05 Cleanup Method: EPA 3665A Cleanup Date: 11/20/14 Cleanup Method: EPA 3660B Cleanup Date: 11/20/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - \	Westborough Lab						
Aroclor 1016	ND		ug/kg	62.3		1	Α
Aroclor 1221	ND		ug/kg	62.3		1	Α
Aroclor 1232	ND		ug/kg	62.3		1	Α
Aroclor 1242	ND		ug/kg	62.3		1	Α
Aroclor 1248	ND		ug/kg	41.5		1	Α
Aroclor 1254	ND		ug/kg	62.3		1	Α
Aroclor 1260	ND		ug/kg	41.5		1	Α
Aroclor 1262	ND		ug/kg	20.8		1	Α
Aroclor 1268	ND		ug/kg	20.8		1	Α
PCBs, Total	ND		ug/kg	20.8		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	21	Q	30-150	A
Decachlorobiphenyl	43		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	22	Q	30-150	В
Decachlorobiphenyl	47		30-150	В



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/20/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A Analytical Date: 97,8082A 11/18/14 05:50

Analyst: KB

Extraction Method: EPA 3540C
Extraction Date: 11/14/14 07:42
Cleanup Method: EPA 3665A
Cleanup Date: 11/17/14
Cleanup Date: EPA 3660B
Cleanup Date: 11/17/14

L1427194

Lab Number:

Parameter	Result	Qualifier	Units	RI	-	MDL	Column
MCP Polychlorinated Biphenyls -	· Westborough	Lab for sa	mple(s):	01,23	Batch:	WG740493	3-1
Aroclor 1016	ND		ug/kg	31.	5		Α
Aroclor 1221	ND		ug/kg	31.	5		Α
Aroclor 1232	ND		ug/kg	31.	5		Α
Aroclor 1242	ND		ug/kg	31.	5		Α
Aroclor 1248	ND		ug/kg	31.	5		Α
Aroclor 1254	ND		ug/kg	31.	5		Α
Aroclor 1260	ND		ug/kg	31.	5		Α
Aroclor 1262	ND		ug/kg	31.	5		Α
Aroclor 1268	ND		ug/kg	31.	5		Α
PCBs, Total	ND		ug/kg	31.	5		Α

	Acceptance						
Surrogate	%Recovery	Qualifier	Criteria	Column			
2,4,5,6-Tetrachloro-m-xylene	72		30-150	Α			
Decachlorobiphenyl	79		30-150	Α			
2,4,5,6-Tetrachloro-m-xylene	85		30-150	В			
Decachlorobiphenyl	77		30-150	В			



11/17/14 Serial_No:11201413:45

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/20/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A Analytical Date: 97,8082A 11/18/14 05:35

Analyst: KB

Extraction Method: EPA 3540C
Extraction Date: 11/14/14 15:10
Cleanup Method: EPA 3665A
Cleanup Date: 11/17/14
Cleanup Method: EPA 3660B
Cleanup Date: 11/17/14

L1427194

Lab Number:

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls WG740689-1	- Westborough	Lab for san	nple(s):	02-03,08-11,1	6,19-20	Batch:
Aroclor 1016	ND		ug/kg	53.3		Α
Aroclor 1221	ND		ug/kg	53.3		А
Aroclor 1232	ND		ug/kg	53.3		А
Aroclor 1242	ND		ug/kg	53.3		А
Aroclor 1248	ND		ug/kg	35.5		Α
Aroclor 1254	ND		ug/kg	53.3		Α
Aroclor 1260	ND		ug/kg	35.5		Α
Aroclor 1262	ND		ug/kg	17.8		Α
Aroclor 1268	ND		ug/kg	17.8		Α
PCBs, Total	ND		ug/kg	17.8		Α

			Acceptance	;
Surrogate	%Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	Α
Decachlorobiphenyl	70		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	66		30-150	В
Decachlorobiphenyl	77		30-150	В



11/19/14 Serial_No:11201413:45

Project Name: HOLY CROSS FIELDHOUSE Lab Number:

Project Number: Not Specified Report Date: 11/20/14

Method Blank Analysis

Batch Quality Control

97,8082A

11/19/14 16:14

Analytical Date: 11/ Analyst: JT

Analytical Method:

Extraction Method: EPA 3540C
Extraction Date: 11/18/14 16:36
Cleanup Method: EPA 3665A
Cleanup Date: 11/19/14
Cleanup Date: EPA 3660B
Cleanup Date: 11/19/14

L1427194

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - WG741644-1	· Westborough	Lab for sa	mple(s):	04-07,12-15,	17-18,21	Batch:
Aroclor 1016	ND		ug/kg	57.2		А
Aroclor 1221	ND		ug/kg	57.2		А
Aroclor 1232	ND		ug/kg	57.2		Α
Aroclor 1242	ND		ug/kg	57.2		А
Aroclor 1248	ND		ug/kg	38.2		А
Aroclor 1254	ND		ug/kg	57.2		А
Aroclor 1260	ND		ug/kg	38.2		Α
Aroclor 1262	ND		ug/kg	19.1		Α
Aroclor 1268	ND		ug/kg	19.1		Α
PCBs, Total	ND		ug/kg	19.1		Α

		1	Acceptance	;
Surrogate	%Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	Α
Decachlorobiphenyl	67		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	87		30-150	В
Decachlorobiphenyl	79		30-150	В



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/20/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A Analytical Date: 97,8082A 11/20/14 08:35

Analyst: JW

Extraction Method: EPA 3540C
Extraction Date: 11/19/14 03:05
Cleanup Method: EPA 3665A
Cleanup Date: 11/20/14
Cleanup Date: EPA 3660B
Cleanup Date: 11/20/14

L1427194

Lab Number:

Result	Qualifier	Units	RL	-	MDL	Column
- Westborough	Lab for sa	mple(s):	22,24	Batch:	WG741796	-1
ND		ug/kg	50.	8		Α
ND		ug/kg	50.	8		Α
ND		ug/kg	50.	8		Α
ND		ug/kg	50.	8		Α
ND		ug/kg	33.	9		Α
ND		ug/kg	50.	8		Α
ND		ug/kg	33.	9		Α
ND		ug/kg	16.	9		Α
ND		ug/kg	16.	9		Α
ND		ug/kg	16.	9		Α
	- Westborough ND ND ND ND ND ND ND ND ND N	ND N	ND ug/kg	ND ug/kg 50. ND ug/kg 33. ND ug/kg 50. ND ug/kg 50. ND ug/kg 16. ND ug/kg 16.	- Westborough Lab for sample(s): 22,24 Batch: ND ug/kg 50.8 ND ug/kg 33.9 ND ug/kg 33.9 ND ug/kg 33.9 ND ug/kg 16.9 ND ug/kg 16.9	- Westborough Lab for sample(s): 22,24 Batch: WG741796 ND ug/kg 50.8 ND ug/kg 50.8 ND ug/kg 50.8 ND ug/kg 50.8 ND ug/kg 33.9 ND ug/kg 33.9 ND ug/kg 33.9 ND ug/kg 33.9 ND ug/kg 16.9 ND ug/kg 16.9

	Acceptance						
Surrogate	%Recovery	Qualifier	Criteria	Column			
2,4,5,6-Tetrachloro-m-xylene	57		30-150	Α			
Decachlorobiphenyl	66		30-150	Α			
2,4,5,6-Tetrachloro-m-xylene	62		30-150	В			
Decachlorobiphenyl	79		30-150	В			



Matrix Spike Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1427194

Report Date: 11/20/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	v Qual	Recovery Limits	RPD	= -	RPD imits	Column
MCP Polychlorinated Biphenyls	s - Westboro	ugh Lab Asso	ociated sampl	le(s): 01,23	QC Batch	ID: WG740	493-4 QC	Sample:	L1427194-01	1 Clien	nt ID: PE-4	44	
Aroclor 1016	ND	219	157	72		-	-		40-140	-		30	Α
Aroclor 1260	ND	219	193	88		-	-		40-140	-		30	Α

	MS	6	M:	SD	Acceptance		
Surrogate	% Recovery	Qualifier	% Recovery	Qualifier	Criteria	Column	
2,4,5,6-Tetrachloro-m-xylene	63				30-150	А	
Decachlorobiphenyl	80				30-150	Α	
2,4,5,6-Tetrachloro-m-xylene	70				30-150	В	
Decachlorobiphenyl	76				30-150	В	



Matrix Spike Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1427194

Report Date: 11/20/14

_Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	<u>Column</u>
MCP Polychlorinated Biphenyls PE-46	- Westborou	ıgh Lab Asso	ociated sampl	le(s): 02-03,08-	11,16,19-2	0 QCB	atch ID: WG74	0689-4	QC Samp	ole: L14	27194-0	3 Clier	nt ID:
Aroclor 1016	ND	698	330	47		-	-		40-140	-		30	Α
Aroclor 1260	ND	698	340	49		-	-		40-140	-		30	Α

	MS	3	M:	SD	Acceptance		
Surrogate	% Recovery	Qualifier	% Recovery	Qualifier	Criteria	Column	
2,4,5,6-Tetrachloro-m-xylene	44				30-150	Α	
Decachlorobiphenyl	61				30-150	Α	
2,4,5,6-Tetrachloro-m-xylene	45				30-150	В	
Decachlorobiphenyl	65				30-150	В	



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1427194

Report Date:

1	1	/20/	/14
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	LCS		LCSD %Recovery			RPD				
Parameter	%Recovery	Qual	%Reco	very	Qual	Limits	RPD	Qual	Limits	Column
MCP Polychlorinated Biphenyls - Westboroug	gh Lab Associa	ted sample(s):	01,23	Batch:	WG740493-2	WG740493-3				
Aroclor 1016	75		81			40-140	8		30	Α
Aroclor 1260	79		92			40-140	15		30	А

LCS		LCSD		Acceptance	
%Recovery	Qual	%Recovery	Qual	Criteria	Column
67		83		30-150	Α
75		85		30-150	Α
74		90		30-150	В
72		78		30-150	В
	%Recovery 67 75 74	%Recovery Qual 67 75 74	%Recovery Qual %Recovery 67 83 75 85 74 90	%Recovery Qual %Recovery Qual 67 83 75 85 74 90	%Recovery Qual %Recovery Qual Criteria 67 83 30-150 75 85 30-150 74 90 30-150



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1427194

11/20/14

Report Date:

	LCS		LCSD		%Recovery			RPD	
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits	Column
MCP Polychlorinated Biphenyls - Westboro	ough Lab Associat	ed sample(s):	02-03,08-11,10	6,19-20	Batch: WG740689-2	WG740689	9-3		
Aroclor 1016	74		69		40-140	7		30	Α
Aroclor 1260	75		66		40-140	13		30	А

Surrogate	LCS		LCSD		Acceptance		
	%Recovery	Qual	%Recovery	Qual	Criteria	Column	
2,4,5,6-Tetrachloro-m-xylene	71		65		30-150	Α	
Decachlorobiphenyl	73		70		30-150	Α	
2,4,5,6-Tetrachloro-m-xylene	67		63		30-150	В	
Decachlorobiphenyl	77		72		30-150	В	



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1427194

11/20/14

Report Date:

	LCS		LCSD		%Recovery			RPD	
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits	Column
MCP Polychlorinated Biphenyls - Westboro	ough Lab Associat	ed sample(s):	04-07,12-15,17	7-18,21	Batch: WG741644-2	WG741644	1-3		
Aroclor 1016	79		78		40-140	1		30	Α
Aroclor 1260	80		82		40-140	2		30	А

LCS		LCSD		Acceptance	
%Recovery	Qual	%Recovery	Qual	Criteria	Column
75		74		30-150	Α
74		75		30-150	Α
81		82		30-150	В
73		75		30-150	В
	%Recovery 75 74 81	%Recovery Qual 75 74 81	%Recovery Qual %Recovery 75 74 74 75 81 82	%Recovery Qual %Recovery Qual 75 74 75 74 75 81	%Recovery Qual %Recovery Qual Criteria 75 74 30-150 74 75 30-150 81 82 30-150



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1427194

Report Date:

11/20/14

	LCS	LCS		9	%Recovery		RPD		
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits	Column
MCP Polychlorinated Biphenyls - Westb	orough Lab Associate	ed sample(s):	22,24 Batch:	WG741796-2	WG741796-3				
Aroclor 1016	70		75		40-140	7		30	Α
Aroclor 1260	73		81		40-140	10		30	А

LCS		LCSD		Acceptance	
%Recovery	Qual	%Recovery	Qual	Criteria	Column
68		72		30-150	Α
78		87		30-150	Α
71		77		30-150	В
90		101		30-150	В
	%Recovery 68 78 71	%Recovery Qual 68 78 71	%Recovery Qual %Recovery 68 72 78 87 71 77	%Recovery Qual %Recovery Qual 68 72 78 87 71 77	%Recovery Qual %Recovery Qual Criteria 68 72 30-150 78 87 30-150 71 77 30-150



METALS



11/11/14 10:10

97,6010C

97,7471B

97,6010C

97,6010C

JΗ

MC

JΗ

JΗ

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-01 Date Collected:

Client ID: PE-44 Date Received: 11/12/14

2.1

0.070

2.1

0.42

mg/kg

mg/kg

mg/kg

mg/kg

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 91%

Lead, Total

Mercury, Total

Selenium, Total

Silver, Total

3.8

ND

ND

ND

Dilution Date Date Prep Analytical Method Factor Prepared Method **Analyzed Parameter** Result Qualifier Units RL MDL **Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 17 mg/kg 0.42 1 11/13/14 17:02 11/14/14 10:19 EPA 3050B 97,6010C JΗ Barium, Total 45 1 97,6010C JΗ mg/kg 0.42 11/13/14 17:02 11/14/14 10:19 EPA 3050B ND 1 97,6010C Cadmium, Total 0.42 11/13/14 17:02 11/14/14 10:19 EPA 3050B JΗ mg/kg 97,6010C Chromium, Total 21 mg/kg 0.42 1 11/13/14 17:02 11/14/14 10:19 EPA 3050B JΗ

--

--

1

1

1

1

11/13/14 17:02 11/14/14 10:19 EPA 3050B

11/13/14 09:12 11/13/14 10:28 EPA 7471B

11/13/14 17:02 11/14/14 10:19 EPA 3050B

11/13/14 17:02 11/14/14 10:19 EPA 3050B



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified **Report Date:** 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-02

Date Collected: 11/11/14 10:09 Client ID: Date Received: 11/12/14 PE-45

WORCESTER, MA Field Prep: Sample Location: Not Specified

Matrix: Solid Percent Solids: 87%

reiterit Solius.	07 /0					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCD Total Matala	\^/	مام ا ماسید									
MCP Total Metals	- vvestbore	bugn Lab									
Arsenic, Total	14		mg/kg	0.45		1	11/13/14 17:02	2 11/14/14 11:09	EPA 3050B	97,6010C	JH
Barium, Total	68		mg/kg	0.45		1	11/13/14 17:02	2 11/14/14 11:09	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.45		1	11/13/14 17:02	2 11/14/14 11:09	EPA 3050B	97,6010C	JH
Chromium, Total	13		mg/kg	0.45		1	11/13/14 17:02	2 11/14/14 11:09	EPA 3050B	97,6010C	JH
Lead, Total	2.4		mg/kg	2.2		1	11/13/14 17:02	2 11/14/14 11:09	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.079		1	11/18/14 09:32	2 11/18/14 11:28	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.2		1	11/13/14 17:02	2 11/14/14 11:09	EPA 3050B	97,6010C	JH
Silver. Total	ND		mg/kg	0.45		1	11/13/14 17:02	2 11/14/14 11:09	EPA 3050B	97,6010C	JH



11/11/14 09:33

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-03 Date Collected:

Client ID: PE-46 Date Received: 11/12/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Percent Solids: 89%

Dilution Date Date Prep Analytical Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 16 mg/kg 0.43 1 11/13/14 17:02 11/14/14 10:31 EPA 3050B 97,6010C JΗ 74 1 97,6010C JΗ Barium, Total mg/kg 0.43 11/13/14 17:02 11/14/14 10:31 EPA 3050B ND 1 97,6010C Cadmium, Total 0.43 11/13/14 17:02 11/14/14 10:31 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 14 mg/kg 0.43 1 11/13/14 17:02 11/14/14 10:31 EPA 3050B JΗ 2.7 2.2 1 11/13/14 17:02 11/14/14 10:31 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.078 1 11/13/14 09:12 11/13/14 10:40 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.2 --1 11/13/14 17:02 11/14/14 10:31 EPA 3050B JΗ Silver, Total ND mg/kg 0.43 1 11/13/14 17:02 11/14/14 10:31 EPA 3050B 97,6010C JΗ



11/11/14 10:08

Project Name:HOLY CROSS FIELDHOUSELab Number:L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-04 Date Collected:

Client ID: PE-47 Date Received: 11/12/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 93%

Percent Solids:	93%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals	- Westbore	ough Lab									
			,	0.40		_			ED4 0050D	07.00400	
Arsenic, Total	13		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 11:13	EPA 3050B	97,6010C	JH
Barium, Total	56		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 11:13	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 11:13	EPA 3050B	97,6010C	JH
Chromium, Total	10		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 11:13	EPA 3050B	97,6010C	JH
Lead, Total	ND		mg/kg	2.0		1	11/13/14 17:02	2 11/14/14 11:13	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.068		1	11/18/14 09:32	2 11/18/14 11:30	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.0		1	11/13/14 17:02	2 11/14/14 11:13	EPA 3050B	97,6010C	JH
Silver, Total	ND		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 11:13	EPA 3050B	97,6010C	JH



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-05 Date Collected: 11/11/14 10:07

Client ID: PE-48 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 93%

Dilution Date Date Prep Analytical Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 22 mg/kg 0.41 1 11/13/14 17:02 11/14/14 11:17 EPA 3050B 97,6010C JΗ 50 0.41 1 97,6010C JΗ Barium, Total mg/kg 11/13/14 17:02 11/14/14 11:17 EPA 3050B ND 1 97,6010C Cadmium, Total 0.41 11/13/14 17:02 11/14/14 11:17 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 9.2 mg/kg 0.41 1 11/13/14 17:02 11/14/14 11:17 EPA 3050B JΗ ND 2.1 1 11/13/14 17:02 11/14/14 11:17 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.071 1 11/18/14 09:32 11/18/14 11:32 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.1 --1 11/13/14 17:02 11/14/14 11:17 EPA 3050B JΗ 0.41 Silver, Total ND mg/kg 1 11/13/14 17:02 11/14/14 11:17 EPA 3050B 97,6010C JΗ



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-06 Date Collected: 11/11/14 09:36

Client ID: PE-49 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 89%

Percent Solids: **Dilution** Date Date Prep Analytical Method Factor Prepared Method **Analyzed Parameter** Result Qualifier Units RL MDL **Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 16 mg/kg 0.43 1 11/13/14 17:02 11/14/14 11:21 EPA 3050B 97,6010C JΗ 77 1 97,6010C JΗ Barium, Total mg/kg 0.43 11/13/14 17:02 11/14/14 11:21 EPA 3050B ND 1 97,6010C Cadmium, Total 0.43 11/13/14 17:02 11/14/14 11:21 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 14 mg/kg 0.43 1 11/13/14 17:02 11/14/14 11:21 EPA 3050B JΗ 3.8 2.2 1 11/13/14 17:02 11/14/14 11:21 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.072 1 11/18/14 09:32 11/18/14 11:38 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.2 --1 11/13/14 17:02 11/14/14 11:21 EPA 3050B JΗ Silver, Total ND mg/kg 0.43 1 11/13/14 17:02 11/14/14 11:21 EPA 3050B 97,6010C JΗ



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-07 Date Collected: 11/11/14 09:29

Client ID: PE-50 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 90%

Dilution Date Date Prep Analytical Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 20 mg/kg 0.43 1 11/13/14 17:02 11/14/14 11:25 EPA 3050B 97,6010C JΗ 50 1 97,6010C JΗ Barium, Total mg/kg 0.43 11/13/14 17:02 11/14/14 11:25 EPA 3050B ND 1 97,6010C Cadmium, Total 0.43 11/13/14 17:02 11/14/14 11:25 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 15 mg/kg 0.43 1 11/13/14 17:02 11/14/14 11:25 EPA 3050B JΗ 2.6 2.2 1 11/13/14 17:02 11/14/14 11:25 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.077 1 11/18/14 09:32 11/18/14 11:40 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.2 --1 11/13/14 17:02 11/14/14 11:25 EPA 3050B JΗ Silver, Total ND mg/kg 0.43 1 11/13/14 17:02 11/14/14 11:25 EPA 3050B 97,6010C JΗ



11/11/14 09:17

Date Collected:

Project Name: Lab Number: HOLY CROSS FIELDHOUSE L1427194

Project Number: Not Specified **Report Date:** 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-08

Client ID: PE-51 Date Received:

11/12/14 WORCESTER, MA Field Prep: Sample Location: Not Specified

Matrix: Solid Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals -	- Westbore	ough Lab									
Arsenic, Total	28		mg/kg	0.43		1	11/13/14 17:02	11/14/14 11:29	EPA 3050B	97,6010C	JH
Barium, Total	21		mg/kg	0.43		1	11/13/14 17:02	11/14/14 11:29	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.43		1	11/13/14 17:02	11/14/14 11:29	EPA 3050B	97,6010C	JH
Chromium, Total	5.5		mg/kg	0.43		1	11/13/14 17:02	11/14/14 11:29	EPA 3050B	97,6010C	JH
Lead, Total	ND		mg/kg	2.1		1	11/13/14 17:02	11/14/14 11:29	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.071		1	11/18/14 09:32	11/18/14 11:42	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.1		1	11/13/14 17:02	11/14/14 11:29	EPA 3050B	97,6010C	JH
Silver, Total	ND		mg/kg	0.43		1	11/13/14 17:02	11/14/14 11:29	EPA 3050B	97,6010C	JH



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:20

Client ID: PE-52 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 90%

Dilution Date Date Prep Analytical Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 23 mg/kg 0.44 1 11/13/14 17:02 11/14/14 11:48 EPA 3050B 97,6010C JΗ 61 1 97,6010C JΗ Barium, Total mg/kg 0.44 11/13/14 17:02 11/14/14 11:48 EPA 3050B ND 1 97,6010C Cadmium, Total 0.44 11/13/14 17:02 11/14/14 11:48 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 15 mg/kg 0.44 1 11/13/14 17:02 11/14/14 11:48 EPA 3050B JΗ 2.6 2.2 1 11/13/14 17:02 11/14/14 11:48 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.075 1 11/18/14 09:32 11/18/14 11:43 EPA 7471B 97,7471B MC mg/kg --Selenium, Total ND mg/kg 2.2 --1 11/13/14 17:02 11/14/14 11:48 EPA 3050B 97,6010C JΗ Silver, Total ND mg/kg 0.44 1 11/13/14 17:02 11/14/14 11:48 EPA 3050B 97,6010C JΗ



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:24

Client ID: PE-53 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 90%

Dilution Date Date Prep Analytical Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 17 mg/kg 0.42 1 11/13/14 17:02 11/14/14 11:51 EPA 3050B 97,6010C JΗ 48 1 97,6010C JΗ Barium, Total mg/kg 0.42 11/13/14 17:02 11/14/14 11:51 EPA 3050B 1 97,6010C Cadmium, Total ND 0.42 11/13/14 17:02 11/14/14 11:51 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 12 mg/kg 0.42 1 11/13/14 17:02 11/14/14 11:51 EPA 3050B JΗ ND 2.1 1 11/13/14 17:02 11/14/14 11:51 EPA 3050B 97,6010C JΗ Lead, Total mg/kg 0.083 Mercury, Total ND 1 11/13/14 09:12 11/13/14 11:03 EPA 7471B 97,7471B MC mg/kg --Selenium, Total ND mg/kg 2.1 --1 11/13/14 17:02 11/14/14 11:51 EPA 3050B 97,6010C JΗ Silver, Total ND mg/kg 0.42 1 11/13/14 17:02 11/14/14 11:51 EPA 3050B 97,6010C JΗ



Project Name:HOLY CROSS FIELDHOUSELab Number:L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

 Lab ID:
 L1427194-11
 Date Collected:
 11/11/14 09:41

 Client ID:
 PE-54
 Date Received:
 11/12/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 90%

reicent Solius.	90 76					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	- Westbore	ough Lab									
Arsenic, Total	24		mg/kg	0.42		1	11/13/14 17:02	2 11/14/14 11:55	EPA 3050B	97,6010C	JH
Barium, Total	85		mg/kg	0.42		1	11/13/14 17:02	2 11/14/14 11:55	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.42		1	11/13/14 17:02	2 11/14/14 11:55	EPA 3050B	97,6010C	JH
Chromium, Total	16		mg/kg	0.42		1	11/13/14 17:02	2 11/14/14 11:55	EPA 3050B	97,6010C	JH
Lead, Total	4.0		mg/kg	2.1		1	11/13/14 17:02	2 11/14/14 11:55	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.072		1	11/13/14 09:12	2 11/13/14 11:09	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.1		1	11/13/14 17:02	2 11/14/14 11:55	EPA 3050B	97,6010C	JH
Silver, Total	ND		mg/kg	0.42		1	11/13/14 17:02	11/14/14 11:55	EPA 3050B	97,6010C	JH



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-12 Date Collected: 11/11/14 09:44

Client ID: PE-55 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 92%

Percent Solids: Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 17 mg/kg 0.42 1 11/13/14 17:02 11/14/14 11:59 EPA 3050B 97,6010C JΗ 67 1 97,6010C JΗ Barium, Total mg/kg 0.42 11/13/14 17:02 11/14/14 11:59 EPA 3050B 1 97,6010C Cadmium, Total ND 0.42 11/13/14 17:02 11/14/14 11:59 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 12 mg/kg 0.42 1 11/13/14 17:02 11/14/14 11:59 EPA 3050B JΗ 3.0 2.1 1 11/13/14 17:02 11/14/14 11:59 EPA 3050B 97,6010C JΗ Lead, Total mg/kg 0.075 Mercury, Total ND 1 11/13/14 09:12 11/13/14 11:11 EPA 7471B 97,7471B MC mg/kg --Selenium, Total ND mg/kg 2.1 --1 11/13/14 17:02 11/14/14 11:59 EPA 3050B 97,6010C JΗ Silver, Total ND mg/kg 0.42 1 11/13/14 17:02 11/14/14 11:59 EPA 3050B 97,6010C JΗ



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-13 Date Collected: 11/11/14 09:46

Client ID: PE-56 Date Received: 11/12/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals	- Westbore	ough Lab									
Arsenic, Total	18		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 12:03	EPA 3050B	97,6010C	JH
Barium, Total	58		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 12:03	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 12:03	EPA 3050B	97,6010C	JH
Chromium, Total	10		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 12:03	EPA 3050B	97,6010C	JH
Lead, Total	ND		mg/kg	2.0		1	11/13/14 17:02	2 11/14/14 12:03	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.075		1	11/13/14 09:12	2 11/13/14 11:13	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.0		1	11/13/14 17:02	2 11/14/14 12:03	EPA 3050B	97,6010C	JH
Silver, Total	ND		mg/kg	0.40		1	11/13/14 17:02	11/14/14 12:03	EPA 3050B	97,6010C	JH



11/11/14 09:38

Date Collected:

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-14

Client ID: PE-57 Date Received: 11/12/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 89%

Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 18 mg/kg 0.44 1 11/13/14 17:02 11/14/14 12:07 EPA 3050B 97,6010C JΗ 71 1 97,6010C JΗ Barium, Total mg/kg 0.44 11/13/14 17:02 11/14/14 12:07 EPA 3050B ND 1 97,6010C 0.44 11/13/14 17:02 11/14/14 12:07 EPA 3050B Cadmium, Total mg/kg JΗ 97,6010C Chromium, Total 15 mg/kg 0.44 1 11/13/14 17:02 11/14/14 12:07 EPA 3050B JΗ 3.9 2.2 1 11/13/14 17:02 11/14/14 12:07 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.077 1 11/13/14 09:12 11/13/14 11:14 EPA 7471B 97,7471B MC mg/kg --Selenium, Total ND mg/kg 2.2 --1 11/13/14 17:02 11/14/14 12:07 EPA 3050B 97,6010C JΗ Silver, Total ND mg/kg 0.44 1 11/13/14 17:02 11/14/14 12:07 EPA 3050B 97,6010C JΗ



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:39

Client ID: PE-58 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid

Percent Solids:	92%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals	- Westbord	ough Lab									
Arsenic, Total	18		mg/kg	0.43		1	11/13/14 17:02	2 11/14/14 12:11	EPA 3050B	97,6010C	JH
Barium, Total	78		mg/kg	0.43		1	11/13/14 17:02	2 11/14/14 12:11	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.43		1	11/13/14 17:02	2 11/14/14 12:11	EPA 3050B	97,6010C	JH
Chromium, Total	14		mg/kg	0.43		1	11/13/14 17:02	2 11/14/14 12:11	EPA 3050B	97,6010C	JH
Lead, Total	3.0		mg/kg	2.1		1	11/13/14 17:02	2 11/14/14 12:11	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.070		1	11/13/14 09:12	2 11/13/14 11:16	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.1		1	11/13/14 17:02	2 11/14/14 12:11	EPA 3050B	97,6010C	JH
Silver, Total	ND		mg/kg	0.43		1	11/13/14 17:02	2 11/14/14 12:11	EPA 3050B	97,6010C	JH



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-16 Date Collected: 11/11/14 09:40

Client ID: PE-59 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 89%

Percent Solids: Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 21 mg/kg 0.44 1 11/13/14 17:02 11/14/14 12:15 EPA 3050B 97,6010C JΗ 79 1 97,6010C JΗ Barium, Total mg/kg 0.44 11/13/14 17:02 11/14/14 12:15 EPA 3050B ND 1 97,6010C Cadmium, Total 0.44 11/13/14 17:02 11/14/14 12:15 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 15 mg/kg 0.44 1 11/13/14 17:02 11/14/14 12:15 EPA 3050B JΗ 6.3 2.2 1 11/13/14 17:02 11/14/14 12:15 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.076 1 11/13/14 09:12 11/13/14 11:18 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.2 --1 11/13/14 17:02 11/14/14 12:15 EPA 3050B JΗ Silver, Total ND mg/kg 0.44 1 11/13/14 17:02 11/14/14 12:15 EPA 3050B 97,6010C JΗ



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-17 Date Collected: 11/11/14 09:52

Client ID: PE-60 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 94%

Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 17 mg/kg 0.42 1 11/13/14 17:02 11/14/14 12:18 EPA 3050B 97,6010C JΗ 56 1 97,6010C JΗ Barium, Total mg/kg 0.42 11/13/14 17:02 11/14/14 12:18 EPA 3050B ND 1 97,6010C Cadmium, Total 0.42 11/13/14 17:02 11/14/14 12:18 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 14 mg/kg 0.42 1 11/13/14 17:02 11/14/14 12:18 EPA 3050B JΗ 2.7 2.1 1 11/13/14 17:02 11/14/14 12:18 EPA 3050B 97,6010C JΗ Lead, Total mg/kg 0.070 Mercury, Total ND 1 11/13/14 09:12 11/13/14 11:20 EPA 7471B 97,7471B MC mg/kg --Selenium, Total ND mg/kg 2.1 --1 11/13/14 17:02 11/14/14 12:18 EPA 3050B 97,6010C JΗ Silver, Total ND mg/kg 0.42 1 11/13/14 17:02 11/14/14 12:18 EPA 3050B 97,6010C JΗ



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-18 Date Collected: 11/11/14 09:50

Client ID: PE-61 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 94%

Percent Solids:	94%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	Mosthor	ough Lab									
IVICE TOTAL IVICIAIS	- Westbord	Jugii Lab									
Arsenic, Total	18		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 12:22	EPA 3050B	97,6010C	JH
Barium, Total	70		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 12:22	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 12:22	EPA 3050B	97,6010C	JH
Chromium, Total	11		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 12:22	EPA 3050B	97,6010C	JH
Lead, Total	ND		mg/kg	2.0		1	11/13/14 17:02	2 11/14/14 12:22	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.067		1	11/18/14 09:32	2 11/18/14 11:45	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.0		1	11/13/14 17:02	2 11/14/14 12:22	EPA 3050B	97,6010C	JH
Silver, Total	ND		mg/kg	0.40		1	11/13/14 17:02	2 11/14/14 12:22	EPA 3050B	97,6010C	JH



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/11/14 09:48

Client ID: PE-62 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid

ND

mg/kg

0.43

Silver, Total

Percent Solids: 90% Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 18 mg/kg 0.43 1 11/13/14 17:02 11/14/14 12:39 EPA 3050B 97,6010C JΗ 62 1 97,6010C JΗ Barium, Total mg/kg 0.43 11/13/14 17:02 11/14/14 12:39 EPA 3050B ND 1 97,6010C Cadmium, Total 0.43 11/13/14 17:02 11/14/14 12:39 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 15 mg/kg 0.43 1 11/13/14 17:02 11/14/14 12:39 EPA 3050B JΗ 11 2.2 1 11/13/14 17:02 11/14/14 12:39 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.075 1 11/18/14 09:32 11/18/14 11:47 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.2 --1 11/13/14 17:02 11/14/14 12:39 EPA 3050B JΗ

1

11/13/14 17:02 11/14/14 12:39 EPA 3050B



97,6010C

JΗ

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-20 Date Collected: 11/11/14 10:04

Client ID: PE-63 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid

Percent Solids: 90%

Dilution Date Date Prep Analytical
Footor Bronged Analyzed Method

Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals	- Westbor	ough Lab									
Arsenic, Total	16		mg/kg	0.44		1	11/13/14 17:02	2 11/14/14 12:43	EPA 3050B	97,6010C	JH
Barium, Total	63		mg/kg	0.44		1	11/13/14 17:02	2 11/14/14 12:43	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.44		1	11/13/14 17:02	2 11/14/14 12:43	EPA 3050B	97,6010C	JH
Chromium, Total	14		mg/kg	0.44		1	11/13/14 17:02	2 11/14/14 12:43	EPA 3050B	97,6010C	JH
Lead, Total	4.9		mg/kg	2.2		1	11/13/14 17:02	2 11/14/14 12:43	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.070		1	11/18/14 09:32	2 11/18/14 11:49	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.2		1	11/13/14 17:02	2 11/14/14 12:43	EPA 3050B	97,6010C	JH
Silver, Total	ND		mg/kg	0.44		1	11/13/14 17:02	2 11/14/14 12:43	EPA 3050B	97,6010C	JH



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-21 Date Collected: 11/11/14 09:59

Client ID: PE-64 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 92%

Dilution Date Date Prep **Analytical** Method Method Factor Prepared **Analyzed Parameter** Result Qualifier Units RL MDL **Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 19 mg/kg 0.43 1 11/13/14 19:05 11/14/14 12:47 EPA 3050B 97,6010C JΗ 62 1 97,6010C JΗ Barium, Total mg/kg 0.43 11/13/14 19:05 11/14/14 12:47 EPA 3050B ND 1 97,6010C Cadmium, Total 0.43 11/13/14 19:05 11/14/14 12:47 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 13 mg/kg 0.43 1 11/13/14 19:05 11/14/14 12:47 EPA 3050B JΗ ND 2.1 1 11/13/14 19:05 11/14/14 12:47 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.074 1 11/18/14 09:32 11/18/14 11:51 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.1 --1 11/13/14 19:05 11/14/14 12:47 EPA 3050B JΗ Silver, Total ND mg/kg 0.43 1 11/13/14 19:05 11/14/14 12:47 EPA 3050B 97,6010C JΗ



11/11/14 09:58

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-22 Date Collected:

Client ID: PE-65 Date Received: 11/12/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid Percent Solids: 91%

Percent Solids:	91%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals	- Westbord	ough Lab									
Arsenic, Total	19		mg/kg	0.42		1	11/13/14 19:05	5 11/14/14 12:51	EPA 3050B	97,6010C	JH
Barium, Total	41		mg/kg	0.42		1	11/13/14 19:05	5 11/14/14 12:51	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.42		1	11/13/14 19:05	5 11/14/14 12:51	EPA 3050B	97,6010C	JH
Chromium, Total	10		mg/kg	0.42		1	11/13/14 19:05	5 11/14/14 12:51	EPA 3050B	97,6010C	JH
Lead, Total	2.4		mg/kg	2.1		1	11/13/14 19:05	5 11/14/14 12:51	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.073		1	11/18/14 09:32	2 11/18/14 11:53	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.1		1	11/13/14 19:05	5 11/14/14 12:51	EPA 3050B	97,6010C	JH
Silver, Total	ND		mg/kg	0.42		1	11/13/14 19:05	5 11/14/14 12:51	EPA 3050B	97,6010C	JH



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

 Lab ID:
 L1427194-23
 Date Collected:
 11/11/14 10:10

 Client ID:
 PE-244
 Date Received:
 11/12/14

Client ID: PE-244 Date Received: 11/12/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil
Percent Solids: 91%

Parameter	9176					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MOD Tatal Matala	\\/ +										
MCP Total Metals	- vvestbord	ougn Lab									
Arsenic, Total	18		mg/kg	0.41		1	11/13/14 19:05	5 11/14/14 12:54	EPA 3050B	97,6010C	JH
Barium, Total	43		mg/kg	0.41		1	11/13/14 19:05	5 11/14/14 12:54	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.41		1	11/13/14 19:05	5 11/14/14 12:54	EPA 3050B	97,6010C	JH
Chromium, Total	22		mg/kg	0.41		1	11/13/14 19:05	5 11/14/14 12:54	EPA 3050B	97,6010C	JH
Lead, Total	5.8		mg/kg	2.1		1	11/13/14 19:05	5 11/14/14 12:54	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.074		1	11/18/14 09:32	2 11/18/14 11:55	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.1		1	11/13/14 19:05	5 11/14/14 12:54	EPA 3050B	97,6010C	JH
Silver, Total	ND		mg/kg	0.41		1	11/13/14 19:05	5 11/14/14 12:54	EPA 3050B	97,6010C	JH



Project Name:HOLY CROSS FIELDHOUSELab Number:L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

 Lab ID:
 L1427194-24
 Date Collected:
 11/11/14 09:33

 Client ID:
 PE-246
 Date Received:
 11/12/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals	- Westbore	ough Lab									
Arsenic, Total	21		mg/kg	0.45		1	11/13/14 19:05	11/14/14 14:01	EPA 3050B	97,6010C	JH
Barium, Total	80		mg/kg	0.45		1	11/13/14 19:05	11/14/14 14:01	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.45		1	11/13/14 19:05	11/14/14 14:01	EPA 3050B	97,6010C	JH
Chromium, Total	16		mg/kg	0.45		1	11/13/14 19:05	11/14/14 14:01	EPA 3050B	97,6010C	JH
Lead, Total	3.8		mg/kg	2.2		1	11/13/14 19:05	11/14/14 14:01	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.079		1	11/18/14 09:32	11/18/14 12:01	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.2		1	11/13/14 19:05	11/14/14 14:01	EPA 3050B	97,6010C	JH
Silver, Total	ND		mg/kg	0.45		1	11/13/14 19:05	11/14/14 14:01	EPA 3050B	97,6010C	JH



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1427194

Report Date: 11/20/14

Method Blank Analysis Batch Quality Control

Parameter	Result Qua	alifier Units	RL	MDL	Dilution Factor	Date Prepared		Analytical Method	
MCP Total Metals - \	Westborough Lab	for sample(s)	: 10-17	Batch:	WG740084-1				
Mercury, Total	ND	mg/kg	0.083		1	11/13/14 09:12	11/13/14 10:49	97,7471B	MC

Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qualifie	r Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals -	Westborough Lab for	sample(s):	01 Bato	h: WG	740085-1				
Mercury, Total	ND	mg/kg	0.083		1	11/13/14 09:12	11/13/14 10:22	97,7471B	МС

Prep Information

Digestion Method: EPA 7471B

Parameter	Result Quali	fier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	
MCP Total Metals - We	estborough Lab f	for sample(s):	03 Bate	ch: WG	740086-1				
Mercury, Total	ND	mg/kg	0.083		1	11/13/14 09:12	11/13/14 10:34	97,7471B	MC

Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - We	estborough Lab for sa	imple(s):	01-20	Batch: '	WG740317-1				
Arsenic, Total	ND	mg/kg	0.40		1	11/13/14 17:02	11/14/14 10:08	97,6010C	JH
Barium, Total	ND	mg/kg	0.40		1	11/13/14 17:02	11/14/14 10:08	97,6010C	JH
Cadmium, Total	ND	mg/kg	0.40		1	11/13/14 17:02	11/14/14 10:08	97,6010C	JH
Chromium, Total	ND	mg/kg	0.40		1	11/13/14 17:02	11/14/14 10:08	97,6010C	JH
Lead, Total	ND	mg/kg	2.0		1	11/13/14 17:02	11/14/14 10:08	97,6010C	JH
Selenium, Total	ND	mg/kg	2.0		1	11/13/14 17:02	11/14/14 10:08	97,6010C	JH



Project Name: HOLY CROSS FIELDHOUSE

Lab Number:

L1427194

Project Number: Not Specified **Report Date:**

11/20/14

Method Blank Analysis Batch Quality Control

Silver, Total ND mg/kg 0.40 1 JΗ

Prep Information

Digestion Method: EPA 3050B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Wes	tborough Lab for s	ample(s):	21-24	Batch: \	NG740359-	1			
Arsenic, Total	ND	mg/kg	0.40		1	11/13/14 19:05	11/14/14 12:35	97,6010C	JH
Barium, Total	ND	mg/kg	0.40		1	11/13/14 19:05	11/14/14 12:35	97,6010C	JH
Cadmium, Total	ND	mg/kg	0.40		1	11/13/14 19:05	11/14/14 12:35	97,6010C	JH
Chromium, Total	ND	mg/kg	0.40		1	11/13/14 19:05	11/14/14 12:35	97,6010C	JH
Lead, Total	ND	mg/kg	2.0		1	11/13/14 19:05	11/14/14 12:35	97,6010C	JH
Selenium, Total	ND	mg/kg	2.0		1	11/13/14 19:05	11/14/14 12:35	97,6010C	JH
Silver, Total	ND	mg/kg	0.40		1	11/13/14 19:05	11/14/14 12:35	97,6010C	JH

Prep Information

Digestion Method: EPA 3050B

Parameter	Result C	ualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	
MCP Total Metals -	Westborough L	ab for s	sample(s):	02,04-09	,18-24	Batch: V	NG741381-1			
Mercury, Total	ND		mg/kg	0.083		1	11/18/14 09:32	11/18/14 11:22	97,7471B	MC

Prep Information

Digestion Method: EPA 7471B



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1427194

Report Date:

11/20/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Westborough Lab	Associated sample(s): 10-	17 Batch	: WG740084-2	WG740084-3	3 SRM Lot Number	er: D083-540		
Mercury, Total	122		125		75-126	2		30
MCP Total Metals - Westborough Lab	Associated sample(s): 01	Batch: W	G740085-2 W	G740085-3 S	RM Lot Number: [D083-540		
Mercury, Total	119		121		75-126	2		30
MCP Total Metals - Westborough Lab	Associated sample(s): 03	Batch: W	G740086-2 W	G740086-3 S	RM Lot Number: [D083-540		
Mercury, Total	125		120		75-126	4		30
MCP Total Metals - Westborough Lab	Associated sample(s): 01-	20 Batch	: WG740317-2	WG740317-3	3 SRM Lot Number	er: D083-540		
Arsenic, Total	90		90		78-122	0		30
Barium, Total	84		90		82-117	7		30
Cadmium, Total	86		84		82-118	2		30
Chromium, Total	86		83		79-121	4		30
Lead, Total	82		78	Q	81-119	5		30
Selenium, Total	90		90		78-123	0		30
Silver, Total	91		88		74-125	3		30



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1427194

Report Date:

11/20/14

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Total Metals - Westborough Lab Asso	ciated sample(s): 21-24	Batch: WG740359-2	WG740359-3 SRM Lot Numbe	r: D083-540)
Arsenic, Total	98	90	78-122	9	30
Barium, Total	84	84	82-117	0	30
Cadmium, Total	86	84	82-118	2	30
Chromium, Total	86	85	79-121	1	30
Lead, Total	94	92	81-119	2	30
Selenium, Total	96	90	78-123	6	30
Silver, Total	91	88	74-125	3	30
MCP Total Metals - Westborough Lab Asso	ciated sample(s): 02,04-0	09,18-24 Batch: WG7	41381-2 WG741381-3 SRM L	ot Number:	D083-540
Mercury, Total	112	112	75-126	0	30



Matrix Spike Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1427194

Report Date: 11/20/14

arameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery Qual	Recovery Limits	RPD Qual	RPD Limits
MCP Total Metals - Westborou	igh Lab Assoc	ciated sampl	e(s): 01 Q	C Batch ID: W	/G74008	5-4 C	C Sample: L1427194-0	1 Client ID	: PE-44	
Mercury, Total	ND	0.148	0.206	139	Q	-	-	75-125	-	35
MCP Total Metals - Westborou	igh Lab Assoc	iated sampl	e(s): 03 C	C Batch ID: W	/G740086	6-4 C	QC Sample: L1427194-0	3 Client ID	: PE-46	
Mercury, Total	ND	0.157	0.221	140	Q	-	-	75-125	-	35
MCP Total Metals - Westborou	igh Lab Assoc	iated sampl	e(s): 01-20	QC Batch ID	: WG740	317-4	QC Sample: L142719	4-01 Clien	t ID: PE-44	
Arsenic, Total	17	10.1	29	119		-	-	75-125	-	35
Barium, Total	45	168	180	80		-	-	75-125	-	35
Cadmium, Total	ND	4.3	3.1	72	Q	-	-	75-125	-	35
Chromium, Total	21	16.8	35	83		-	-	75-125	-	35
Lead, Total	3.8	43	32	66	Q	-	-	75-125	-	35
Selenium, Total	ND	10.1	7.2	71	Q	-	-	75-125	-	35
Silver, Total	ND	25.3	20	79		-	-	75-125	-	35
MCP Total Metals - Westborou	igh Lab Assoc	ciated sampl	e(s): 01-20	QC Batch ID	: WG740	317-7	QC Sample: L142719	4-03 Clien	t ID: PE-46	
Arsenic, Total	16	10.6	26	94		-	-	75-125	-	35
Barium, Total	74	176	210	77		-	-	75-125	-	35
Cadmium, Total	ND	4.49	3.2	71	Q	-	-	75-125	-	35
Chromium, Total	14	17.6	26	68	Q	-	-	75-125	-	35
Lead, Total	2.7	44.9	33	67	Q	-	-	75-125	-	35
Selenium, Total	ND	10.6	9.1	86		-	-	75-125	-	35
Silver, Total	ND	26.4	25	94			_	75-125	-	35



L1427194

Lab Serial Dilution Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Report Date: 11/20/14

Lab Number:

Parameter		Native Sar	nple	Serial Dilution	<u>Units</u>	% D	Qual	RPD Limits
MCP Total Metals - Westb	orough Lab A	ssociated sample(s): 01-20	QC Batch ID:	WG740317-6	QC Sample: L142	7194-01	Client ID:	PE-44
Barium, Total		45		75	mg/kg	67	Q	10
Chromium, Total		21		35	mg/kg	67	Q	10
MCP Total Metals - Westb	orough Lab A	ssociated sample(s): 01-20	QC Batch ID:	WG740317-9	QC Sample: L142	7194-03	Client ID:	PE-46
Barium, Total		74		120	mg/kg	62	Q	10



INORGANICS & MISCELLANEOUS



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-01

Client ID: PE-44

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/11/14 10:10

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	stborough Lab)								
Solids, Total	90.5		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-02

Client ID: PE-45

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 10:09

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	86.6		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-03

Client ID: PE-46

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	88.6		%	0.100	NA	1	_	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-04

Client ID: PE-47

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 10:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	93.0		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-05

Client ID: PE-48

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 10:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - W	Vestborough Lab)								
Solids, Total	92.7		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-06

Client ID: PE-49

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:36

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	89.4		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-07

Client ID: PE-50

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:29

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	89.8		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-08

Client ID: PE-51

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:17

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	90.7		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Report Date: 11/20/14 Not Specified

SAMPLE RESULTS

Lab ID: L1427194-09

PE-52 Client ID:

Sample Location: WORCESTER, MA

Matrix: Solid Date Collected: 11/11/14 09:20

Date Received: 11/12/14

Not Specified Field Prep:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	89.6		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-10

Client ID: PE-53

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	89.6		%	0.100	NA	1	_	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-11

Client ID: PE-54

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:41

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	90.1		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-12

Client ID: PE-55

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:44

Date Received: 11/12/14
Field Prep: Not Specified

Analytical Method **Dilution** Date Date Factor Prepared Result Qualifier Units Analyzed RL MDL **Parameter Analyst** General Chemistry - Westborough Lab Solids, Total 92.1 % 0.100 NA 1 11/13/14 01:46 30,2540G RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-13

Client ID: PE-56

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:46

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	93.9		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-14

Client ID: PE-57

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:38

Date Received:

Field Prep: Not Specified

11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	89.2		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-15

Client ID: PE-58

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:39

Date Received: 11/12/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	92.1		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-16

Client ID: PE-59

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:40

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	88.7		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-17

Client ID: PE-60

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:52

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	94.1		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-18

Client ID: PE-61

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:50

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	estborough Lab)								
Solids, Total	94.0		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-19

Client ID: PE-62

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:48

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - W	estborough Lab)								
Solids, Total	90.3		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-20

Client ID: PE-63

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 10:04

Date Received: 11/12/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	89.5		%	0.100	NA	1	-	11/13/14 01:46	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-21

Client ID: PE-64

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:59

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	92.3		%	0.100	NA	1	-	11/13/14 00:27	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-22

Client ID: PE-65

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:58

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	90.9		%	0.100	NA	1	-	11/13/14 00:27	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-23

Client ID: PE-244

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/11/14 10:10

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	91.3		%	0.100	NA	1	-	11/13/14 00:27	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1427194

Project Number: Not Specified Report Date: 11/20/14

SAMPLE RESULTS

Lab ID: L1427194-24

Client ID: PE-246

Sample Location: WORCESTER, MA

Matrix: Solid

Date Collected: 11/11/14 09:33

Date Received: 11/12/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	88.0		%	0.100	NA	1	-	11/13/14 00:27	30,2540G	RT



Lab Duplicate Analysis
Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1427194

Report Date: 11/20/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associa	ated sample(s): 21-24 QC Batc	h ID: WG740057-1	QC Sample: L142	27192-01	Client ID:	DUP Sample
Solids, Total	90.2	89.5	%	1		20
General Chemistry - Westborough Lab Associa	ated sample(s): 01-20 QC Batc	h ID: WG740075-1	QC Sample: L142	27194-01	Client ID:	PE-44
Solids, Total	90.5	90.0	%	1		20



Lab Number: L1427194

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/20/14

Sample Receipt and Container Information

Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Info	ormation						
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1427194-01A	Amber 250ml unpreserved	A	N/A	5.5	Υ	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1427194-02A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1427194-03A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1427194-04A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1427194-05A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1427194
Report Date: 11/20/14

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1427194-06A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1427194-07A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1427194-08A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1427194-09A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1427194-10A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1427194-11A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1427194 **Report Date:** 11/20/14

Container Info	Container Information Temp								
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)		
L1427194-12A	Amber 250ml unpreserved	Α	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-DB-6010T-10(180)		
L1427194-13A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)		
L1427194-14A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)		
L1427194-15A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)		
L1427194-16A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)		
L1427194-17A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-T471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1427194
Report Date: 11/20/14

Container Info	Container Information Temp								
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)		
L1427194-18A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		
L1427194-19A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		
L1427194-20A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		
L1427194-21A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		
L1427194-22A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		
L1427194-23A	Amber 250ml unpreserved	A	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1427194

Report Date: 11/20/14

Container Information				Temp					
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)		
L1427194-24A	Amber 250ml unpreserved	Α	N/A	5.5	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		



Project Name:HOLY CROSS FIELDHOUSELab Number:L1427194Project Number:Not SpecifiedReport Date:11/20/14

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

SRM

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
 of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1427194Project Number:Not SpecifiedReport Date:11/20/14

Data Qualifiers

- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1427194Project Number:Not SpecifiedReport Date:11/20/14

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, lodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl. EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene,

Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mq,Mn,Mo,Ni,K,Se,Aq,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

See reverse side.

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FORM NO: 01-01 (rev. 18-Jan-2010)

C	CHAIN OF CL	JSTODY	PAGEOF	3	Date Re	ec'd in L	ab:		eliy	ALPHA	A Job#: 61427194
WESTBORO, MA MANSFIELD, M	AA Projec	t Information			Repor	t Inforr	nation - Da	ata Deliver	ables	Billing	Information
TEL: 508-898-9220 TEL: 508-822-9 FAX: 508-898-9193 FAX: 508-822-9	9300 3288 Project	Name: Holy Cros	s Fieldhouse	2	□ FAX	(≱ EMAI	IL		X Same	as Client info PO #:
Client Information		•	ester MA		X ADE		V	Deliverables			
Client: Cooperstown Er	nviconmenta Project							ts/Report I			
Address: 23 Main S		Manager: Rich	lard Gang								s detect < I ppm
Andover Mr		Quote #:				P PRES	SUMPTIVE	CERTAIN	Y C	reaso	NABLE CONFIDENCE PROTO
Phone: 978-470		Around Time		P)	Yes Yes	□ No X No		Analytical N		-	DG? (If yes see note in Comments)
Fax:	_				☐ Yes	M No			-		rotocols) Required?
Email: richard @ cooper	stownerw.com	iard □ RU\$H.	(only confirmed if pre-approved!)	0		/*/_/.	9/	///	/ /	//	SAMPLE HANDLING
☐ These samples have been previous	Date D	ue: 1/19/14	Time:		ANALYSIS	Small	ğ / /	/ / /		/ / /	SAMPLE HANDLING
Other Project Specific Requ				100	₹/.	3, 3	9 / /		//		/ Filtration Done
If MS is required , indicate in Sample (Note: All CAM methods for inorgan	e Specific Comments which samp ic analyses require MS every 20 :	oles and what tests MS t soil samples)	to be performed.		$\sqrt{\epsilon}/c$	/ = /		///	/ /	///	│ │ │
\$3500B 3540C &	f SW-846 detec	of limit <	pm	2	Sep.	KRA		/ / /	_//	/ / /	Preservation □ Lab to do
ALPHA Lab ID		Collection	Sample Sam	pler's	\JU\(& /	/ / /			1/	(Please specify below)
(Lab Use Only)	Sample ID	Date Tim		tials		/_/			<u>/ / </u>	/ / /	Sample Specific Comments
27/94-21 PE-	- 64	11/11/14 9:5	9 Concrete A	M	ХХ						
22 PE-	65	9:5	8 Concrete		$\mathbf{x} \mathbf{x}$.	1
23 PE-	-244	10:1	o Soil		Х×						
3.6 KANTARA 8 18 17	-246	V 9:3	3 Concrete '	1	××						
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1.1 One are 1.1	<u> </u>					+-+					
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PLEASE ANSWER QUESTION	S ABOVE!		Container		GG						Please print clearly, legibly and con pletely. Samples can not be logged
IS YOUR PROJECT	Τ		Preserva	_	AA				D-1-	/Time	in and turnaround time clock will no start until any ambiguities are resol
(MA MCP) or CT RO		uished By:	Date/Time		1		eived By:		if $\int_{C_{2}} \int_{C_{2}}$	e/Time	All samples submitted are subject t
FORM NO: 01-01 (rev. 18-Jan-2010)	www.ill	//Wor !	11/12/17 1	174	- Hz	tt	Twell	ial	Tizle	4/245	Alpha's Terms and Conditions. See reverse side.
Page 114 of 128			-17°		7)				, ,		

Data Path: I:\Pest12\141118\ Data File: 12141118-09.d

Signal(s): Signal #1: ECD1A.ch Signal #2: ECD2B.ch

Acq On : 18 Nov 2014 5:50 am

Operator: pest12:kb Sample: wg740493-1,42e,,

: wg741390,wg740493,ical9214 ALS Vial: 7 Sample Multiplier: 1

Integration File signal 1: events.e Integration File signal 2: events2.e Quant Time: Nov 19 00:53:29 2014

Quant Method: 1:\Pest12\Methods Pest12\P12_pcb 02-20-14_ugL_.m

Quant Title: pcb

QLast Update: Thu Oct 16 09:49:53 2014

Response via: Initial Calibration

Integrator: ChemStation

Volume Inj.

Signal #2 Phase: Signal #1 Phase: Signal #2 Info: Signal #1 Info :

: Default - All compounds listed Sub List

14) i 2154_1br2nb 2.147 2.297 1308.3E6 3853.6E6 250.000 250.00 24) i 4268_1br2nb 2.147 2.297 1308.3E6 3853.6E6 250.000 250.00 35) i 1248 1br2nb 2.147 2.297 1308.3E6 3853.6E6 250.000 250.00		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l ug 	/I
41) i 3262_1br2nb 2.147 2.297 1308.3E6 3853.6E6 250.000 250.0	1) i 14) 24) 35)	1660_1br2nb i 2154_1br2nb i 4268_1br2nb i 1248 1br2nb	2.147 2.147 2.147 2.147	2.297 2.297 2.297	1308.3E6 1308.3E6 1308.3E6	3853.6E6 3853.6E6 3853.6E6	250.000 250.000 250.000	250.000 250.000

System Monitoring Compounds

2) s 2,4,5,6-T... 2.631 2.933 2343.7E6 7073.0E6 360.497 425.151 Spiked Amount 500.000 Range 30 - 150 Recovery = 72.10% 85.03% 3) s Decachlor... 6.642 7.308 2070.5E6 4002.8E6 396.538 386.610 Spiked Amount 500.000 Range 30 - 150 Recovery = 79.31% 77.32%

Target Compounds N.D. d 0 N.D. d 0.000 -0 4) 11 1016-1 0.000 N.D. d N.D. d 0.000 0.000 0 0 5) | 1 1016-2 N.D. d N.D. d 0 0 0.000 0.000 6) 11 1016-3 N.D. d 0' N.D. d 0.000 0.000 0 7) 11 1016-4 0 N.D. d N.D. d 0 0.000 0.000 8) 11 1016-5 0 N.D. N.D. 0 Sum 1016-1 0.000 0.000 Average 1016-1 N.D. d N.D. d 0 0 0.000 0.000 9) 12 1260-1 N.D. d N.D. d 0 0 10) |2 1260-2 0.000 0.000 0 0 N.D. d 0.000 0.000

N.D. d 11) | 2 | 1260-3 0 0 N.D. d N.D. d 0.000 0.000 12) | 2 | 1260-4 N.D. d 0 N.D. d 0 0.000 0.000 13) | 2 | 1260-5 N.D. N.D. Sum 1260-1 0 0 0.000 0.000 Average 1260-1

N.D. d N.D. d 0.000 0.000 15) I3 1221-1

Data Path : I:\Pest12\141118\ Data File : 12141118-09.d

Signal(s): Signal #1: ECD1A.ch Signal #2: ECD2B.ch

Acq On : 18 Nov 2014 5:50 am

Operator: pest12:kb Sample: wg740493-1,42e,,

Misc : wg741390,wg740493,ical9214

ALS Vial: 7 Sample Multiplier: 1

Integration File signal 1: events.e Integration File signal 2: events2.e

Quant Time: Nov 19 00:53:29 2014

Quant Method: I:\Pest12\Methods Pest12\P12_pcb 02-20-14_ugL_.m

Quant Title: pcb

QLast Update: Thu Oct 16 09:49:53 2014

Response via : Initial Calibration

Integrator: ChemStation

Volume Inj. :

Signal #1 Phase : Signal #1 Info : Signal #2 Phase:

Signal #2 Info :

Sub List : Default - All compounds listed

Compound	RT#1	l RT#	2	Re	esp#1	Resp#2	ug/l	ug/i
16) I3 1221-2 17) I3 1221-3 18) I3 1221-4 Sum 1221-1 Average 1221-1	0.000 0.000 0.000	0.000 0.000 0.000	0	0 0 0		N.D. d N.D. d I.D. N	N.D. N.D. N.D. N.D. .D.	d
19) 4 1254-1 20) 4 1254-2 21) 4 1254-3 22) 4 1254-4 23) 4 1254-5 Sum 1254-1 Average 1254-1	0.000 0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000 0.000	0	0 0 0 0 0		N.D. d N.D. d N.D. d N.D. d I.D. N	N.D. N.D. N.D. N.D. N.D. .D.	d d d
25) 6 1242-1 26) 6 1242-2 27) 6 1242-3 28) 6 1242-4 29) 6 1242-5 Sum 1242-1 Average 1242-1	0.000 0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000 0.000	0	0 0 0 0		N.D. d N.D. d N.D. d I.D. N	N.D. N.D. N.D. N.D. N.D. .D.	d d d
30) I9 1268-1 31) I9 1268-2 32) I9 1268-3 33) I9 1268-4 34) I9 1268-5 Sum 1268-1 Average 1268-1	0.000 0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000 0.000	0	0 0 0 0		N.D. d N.D. d N.D. d I.D. N		d d d
36) 17 1248-1	0.000	0.000		0	0	N.D. d	N.D.	d

Data Path : I:\Pest12\141118\ Data File : 12141118-09.d

Signal(s): Signal #1: ECD1A.ch Signal #2: ECD2B.ch

Acq On : 18 Nov 2014 5:50 am

Operator : pest12:kb

Sample: wg740493-1,42e,,

Misc : wg741390,wg740493,ical9214

ALS Vial: 7 Sample Multiplier: 1

Integration File signal 1: events.e Integration File signal 2: events2.e Quant Time: Nov 19 00:53:29 2014

Quant Method : I:\Pest12\Methods Pest12\P12_pcb 02-20-14_ugL_.m

Quant Title : pcb

QLast Update: Thu Oct 16 09:49:53 2014

Response via: Initial Calibration

Integrator: ChemStation

Volume Inj.

Signal #1 Phase:

Signal #2 Phase:

Signal #1 Info :

Signal #2 Info :

Sub List : Default - All compounds listed

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l ug/l
37) 7 1248-2 38) 7 1248-3 39) 7 1248-4 40) 7 1248-5	0.000 0	0.000 0.000 0.000	0 0 0 0 0 0	N.D. d	N.D. d N.D. d
Sum 1248-1 Average 1248-1		0		I.D. N.I .000 0.6	D. 000
42) I5 1232-1 43) I5 1232-2 44) I5 1232-3 45) I5 1232-4 46) I5 1232-5 Sum 1232-1 Average 1232-1	0.000 0 0.000 0 0.000 0	0.000 0.000 0.000 0.000 0.000	0 0 0	N.D. d N.D. d N.D. d I.D. N.	N.D. d N.D. d N.D. d
47) l8 1262-1 48) l8 1262-2 49) l8 1262-3 50) l8 1262-4 51) l8 1262-5 Sum 1262-1 Average 1262-1	0.000 0 0.000 0 0.000 0	0.000 0.000 0.000 0.000 0.000		N.D. d N.D. d N.D. d I.D. N.	N.D. d N.D. d N.D. d N.D. d

SemiQuant Compounds - Not	Calibrated	on	this li	nstrument
Sum 1262-1	0	0	N.D.	N.D.
Average 1262-1			0.000	0.000

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sub List : Default - All compounds listedrt (QT Reviewed)

Data Path: I:\Pest12\141118\ Data File: 12141118-09.d

Signal(s): Signal #1: ECD1A.ch Signal #2: ECD2B.ch

Acq On : 18 Nov 2014 5:50 am

Operator : pest12:kb Sample: wg740493-1,42e,,

: wg741390,wg740493,ical9214 ALS Vial: 7 Sample Multiplier: 1

Integration File signal 1: events.e Integration File signal 2: events2.e Quant Time: Nov 19 00:53:29 2014

Quant Method: I:\Pest12\Methods Pest12\P12 pcb 02-20-14 ugL .m

Quant Title : pcb

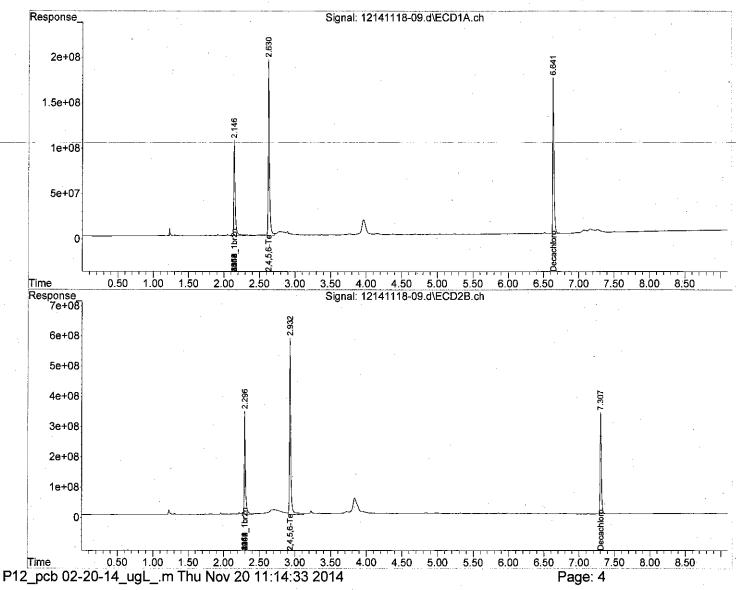
QLast Update: Thu Oct 16 09:49:53 2014

Response via: Initial Calibration

Integrator: ChemStation

Volume Inj.

Signal #1 Phase: Signal #2 Phase: Signal #1 Info : Signal #2 Info:



Page 118 of 128

Manual Integration/Negative Proof Report

Data Path : I:\Pest12\141118\

Data File : 12141118-09.d Date Inj'd : 11/18/2014 5:50 am

Sample: wg740493-1,42e,,

QMethod : P12_pcb 02-20-14_ugL_.m

Operator : pest12:kb Instrument : Pest12

Quant Date: 11/19/2014 0:36 am

There are no manual integrations or false positives in this file.

Report Ver.: 2.0.0.0

Data Path : I:\Pest12\141118\ Data File: 12141118-10.d

Signal(s): Signal #1: ECD1A.ch Signal #2: ECD2B.ch

Acg On : 18 Nov 2014 6:03 am

Operator: pest12:kb

Sample: wg740493-2,42e,,

Misc: wg741390,wg740493,ical9214 ALS Vial: 8 Sample Multiplier: 1

Integration File signal 1: events.e Integration File signal 2: events2.e Quant Time: Nov 19 00:54:21 2014

Quant Method: I:\Pest12\Methods Pest12\P12_pcb 02-20-14_ugL_1660.m

Quant Title : pcb

QLast Update: Wed Nov 12 23:06:22 2014

Response via: Initial Calibration

Integrator: ChemStation

Volume Inj.

Signal #1 Phase:

Signal #2 Phase:

Signal #1 Info :

Signal #2 Info:

Sub List : Default - All compounds listed

Compound RT#1 RT#2 Resp#1 Resp#2 ug/l

Internal Standards

1) i 1660 1br2nb 2.146 2.297 1337.0E6 4026.5E6 250.000 250.000

System Monitoring Compounds

2) s 2,4,5,6-T... 2.630 2.932 2239.7E6 6452.4E6 337.123 371.197 Spiked Amount 500.000 Range 30 - 150 Recovery = 67.42% 74.24% 3) s Decachior... 6.643f 7.311 2012.7E6 3868.6E6 377.222 357.606 Spiked Amount 500.000 Range 30 - 150 Recovery = 75.44% 71.52%

Target Compounds

4) 11 1016-1 2.867f 3.297 396.0E6 993.7E6 2954.800 2898.940 5) 11 1016-2 3.113f 3.620 570.8E6 1745.0E6 2060.327 2397.562 6) I1 1016-3 3.457f 4.008 1272.5E6 2481.9E6 2213.428 2588.636 7) 11 1016-4 3.558f 4.119 457.8E6 1570.8E6 2149.693 2755.661 # 8) | 1 1016-5 3.879f 4.498 557.3E6 1169.2E6 2371.552 2878.515 Sum 1016-1 3254.4E6 7960.7E6 11749.801 13519.314

2349.960 2703.863 Average 1016-1

9) 12 1260-1 4.824f 5.458 751.6E6 2226.7E6 2333.230 2985.090 # 10) |2 | 1260-2 5.030f 5.602 1134.6E6 2520.8E6 2477.509 2900.807 5.494f 6.125 659.3E6 1778.9E6 2481.608 2818.782 11) | 1260-3 5.710f 6.287 1736.1E6 3701.3E6 2490.758 2630.489 12) | 2 1260-4 13) |2 1260-5 5.908f 6.538f 1107.0E6 3347.0E6 2538.995 2570.760M3 Sum 1260-1 5388.5E6 13574.7E6 12322.100 13905.929

Average 1260-1 2464.420 2781.186

SemiQuant Compounds - Not Calibrated on this Instrument

Sum 1260-1 5388.5E6 13574.7E6 12322.100 13905.929

Average 1260-1 2464.420 2781.186

Data Path : I:\Pest12\141118\ Data File : 12141118-10.d

Signal(s): Signal #1: ECD1A.ch Signal #2: ECD2B.ch

Acq On : 18 Nov 2014 6:03 am

Operator: pest12:kb

Sample: wg740493-2,42e,,

Misc : wg741390,wg740493,ical9214

ALS Vial: 8 Sample Multiplier: 1

Integration File signal 1: events e Integration File signal 2: events2.e Quant Time: Nov 19 00:54:21 2014

Quant Method: I:\Pest12\Methods Pest12\P12_pcb 02-20-14_ugL_1660.m

Quant Title : pcb

QLast Update: Wed Nov 12 23:06:22 2014

Response via: Initial Calibration

Integrator: ChemStation

Volume Inj. :

Signal #1 Phase : Signal #1 Info : Signal #2 Phase:

Signal #2 Info:

Sub List : Default - All compounds listed

Compound RT#1 RT#2 Resp#1 Resp#2 ug/l ug/l

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sub List : Default - All compounds listedrt (QT Reviewed)

Data Path : I:\Pest12\141118\ Data File : 12141118-10.d

Signal(s): Signal #1: ECD1A.ch Signal #2: ECD2B.ch

Acq On : 18 Nov 2014 6:03 am

Operator: pest12:kb Sample: wg740493-2,42e,

Misc: wg741390,wg740493,ical9214

ALS Vial: 8 Sample Multiplier: 1

Integration File signal 1: events e Integration File signal 2: events2.e Quant Time: Nov 19 00:54:21 2014

Quant Method: I:\Pest12\Methods Pest12\P12_pcb 02-20-14_ugL_1660.m

Quant Title: pcb

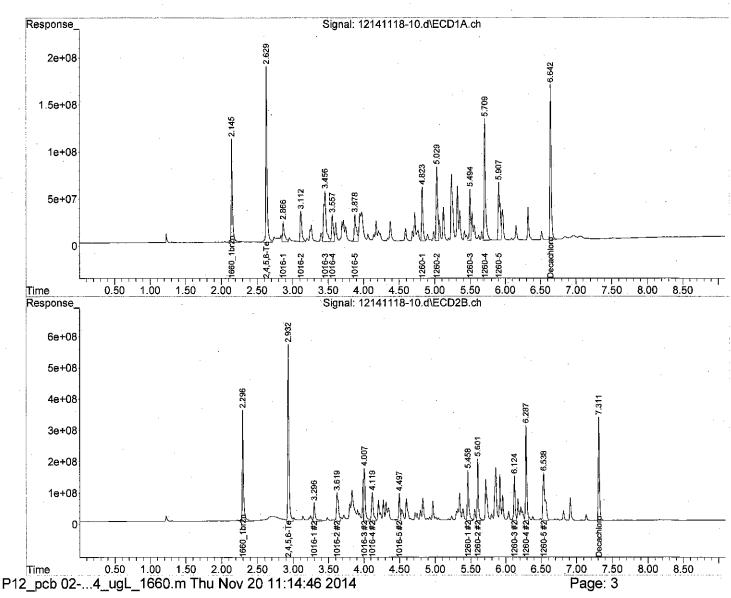
QLast Update: Wed Nov 12 23:06:22 2014

Response via: Initial Calibration

Integrator: ChemStation

Volume Inj.

Signal #1 Phase : Signal #2 Phase: Signal #2 Info : Signal #2 Info :



Manual Integration/Negative Proof Report

Data Path : I:\Pest12\141118\

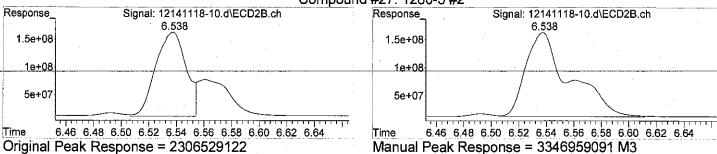
Data File : 12141118-10.d Date Inj'd : 11/18/2014 6:03 am

Sample : wg740493-2,42e,, QMethod : P12_pcb 02-20-14_ugL_1660.m

Operator : pest12:kb Instrument : Pest12

Quant Date: 11/19/2014 0:54 am

Compound #27: 1260-5 #2



M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification

from 2 partially resolved peaks not being split.

Data Path: I:\Pest12\141118\ Data File: 12141118-11.d

Signal(s): Signal #1: ECD1A.ch Signal #2: ECD2B.ch

Acq On : 18 Nov 2014 6:15 am

Operator: pest12:kb Sample: wg740493-3,42e,,

Misc: wg741390,wg740493,ical9214

ALS Vial: 9 Sample Multiplier: 1

Integration File signal 1: events.e Integration File signal 2: events2.e Quant Time: Nov 19 00:55:52 2014

Quant Method: I:\Pest12\Methods Pest12\P12 pcb 02-20-14_ugL 1660.m

Quant Title: pcb

QLast Update: Wed Nov 12 23:06:22 2014

Response via: Initial Calibration

Integrator: ChemStation

Volume Inj. :

Signal #1 Phase:

Signal #2 Phase:

Signal #1 Info:

Signal #2 Info:

Sub List : Default - All compounds listed

Compound RT#1 RT#2 Resp#1 Resp#2 ug/l ua/l

Internal Standards

1) i 1660 1br2nb 2.147 2.297 1381.8E6 4149.7E6 250.000 250.000

System Monitoring Compounds

2) s 2,4,5,6-T... 2.631 2.933 2856.0E6 8077.4E6 415.952 450.889 Spiked Amount 500.000 Range 30 - 150 Recovery = 83.19% 90.18% 3) s Decachlor... 6.644f 7.312 2336.1E6 4357.0E6 423.637 390.796 Spiked Amount 500.000 Range 30 - 150 Recovery = 84.73% 78.16%

Target Compounds

4) [1 1016-1 2.866f 3.297 297.1E6 1200.3E6 2145.052M4 3397.921# 5) | 1 1016-2 3.114f 3.621 712.8E6 2115.8E6 2489.499 2820.649 6) | 1 1016-3 3,455f 4,008 1570.6E6 2995.6E6 2643.270 3031.679 3.559f 4.120 571.2E6 1877.8E6 2594.876 3196.291 7) | 1 1016-4 8) | 1 1016-5 3.879f 4.498 681.7E6 1424.3E6 2806.902 3402.574 Sum 1016-1 3833.3E6 9613.8E6 12679.599 15849.114 2535.920 3169.823

Average 1016-1

9) 12 1260-1 4.825f 5.457 938.7E6 2297.6E6 2819.707 2988.722M3 10) | 2 | 1260-2 5.029f 5.601 1390.8E6 3102.6E6 2938.468M3 3464.409 11) | 2 | 1260-3 5.494f 6.125 766.8E6 2174.5E6 2792.612M3 3343.391 12) 12 1260-4 5.711f 6.287 2058.5E6 4387.4E6 2857.506 3025.534 13) |2 1260-5 5.909f 6.539 1313.1E6 4058.0E6 2914.049 3024.396M3 6467.8E6 16020.2E6 14322.342 15846.453 Sum 1260-1

Average 1260-1 2864.468 3169.291

SemiQuant Compounds - Not Calibrated on this Instrument

Sum 1260-1

6467.8E6 16020.2E6 14322.342 15846.453

Average 1260-1

2864.468 3169.291

Quantitation Report (QT Reviewed)

Data Path : I:\Pest12\141118\ Data File : 12141118-11.d

Signal(s): Signal #1: ECD1A.ch Signal #2: ECD2B.ch

Acq On : 18 Nov 2014 6:15 am

Operator : pest12:kb

Sample: wg740493-3,42e,,

Misc : wg741390,wg740493,ical9214

ALS Vial: 9 Sample Multiplier: 1

Integration File signal 1: events.e Integration File signal 2: events2.e

Quant Time: Nov 19 00:55:52 2014

Quant Method: I:\Pest12\Methods Pest12\P12_pcb 02-20-14_ugL_1660.m

Quant Title : pcb

QLast Update: Wed Nov 12 23:06:22 2014

Response via: Initial Calibration

Integrator: ChemStation

Volume Inj.

Signal #1 Phase :

Signal #2 Phase:

Signal #1 Info :

Signal #2 Info :

Sub List : Default - All compounds listed

Compound RT#1 RT#2 Resp#1 Resp#2 ug/l ug/l

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Serial_No:11201413:45

Sub List : Default - All compounds listedrt (QT Reviewed)

Data Path : I:\Pest12\141118\ Data File : 12141118-11.d

Signal(s): Signal #1: ECD1A.ch Signal #2: ECD2B.ch

Acq On : 18 Nov 2014 6:15 am

Operator: pest12:kb Sample: wg740493-3,42e,,

Misc: wg741390,wg740493,ical9214 ALS Vial: 9 Sample Multiplier: 1

Integration File signal 1: events.e Integration File signal 2: events2.e

Quant Time: Nov 19 00:55:52 2014

Quant Method: I:\Pest12\Methods Pest12\P12_pcb 02-20-14_ugL_1660.m

Quant Title : pcb

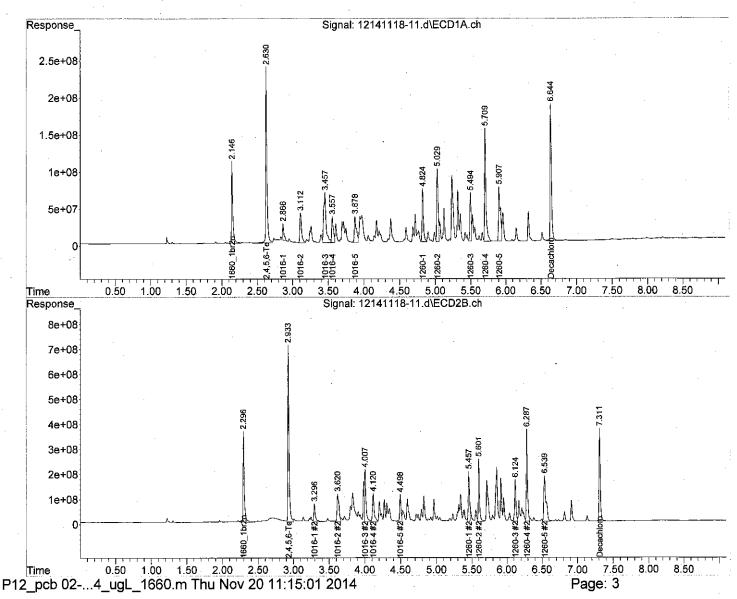
QLast Update: Wed Nov 12 23:06:22 2014

Response via: Initial Calibration

Integrator: ChemStation

Volume Inj.

Signal #1 Phase: Signal #2 Phase: Signal #2 Info: Signal #2 Info:



Manual Integration/Negative Proof Report

Data Path : I:\Pest12\141118\ Data File : 12141118-11.d Date Inj'd: 11/18/2014 6:15 am

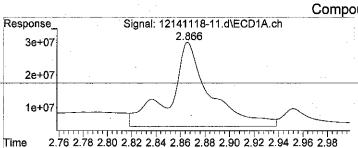
: wg740493-3,42e,,

Sample

: P12_pcb 02-20-14_ugL_1660.m QMethod

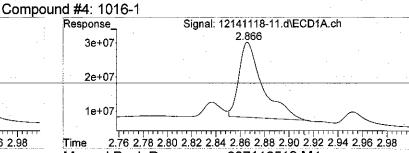
Operator : pest12:kb Instrument: Pest12

Quant Date: 11/19/2014 0:55 am

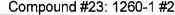


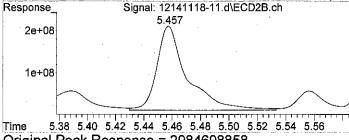
Original Peak Response = 587895493

M4 = Poor automated baseline construction.

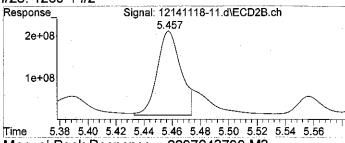


Manual Peak Response = 297116513 M4



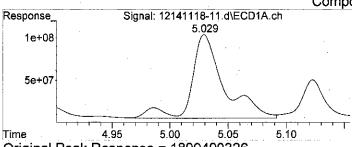


Original Peak Response = 2984698858

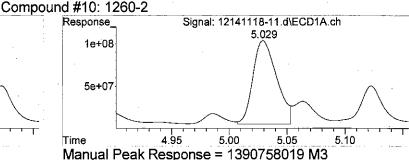


Manual Peak Response = 2297643799 M3

M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

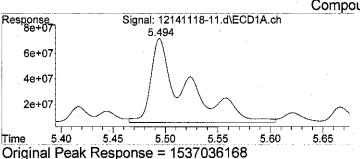


Original Peak Response = 1899490326



Manual Peak Response = 1390758019 M3

M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.



Compound #11: 1260-3 Signal: 12141118-11.d\ECD1A.ch Response 8e+07 5.494 6e+07 4e+07 2e+07 5.40 5.45 5.50 5.60

Manual Peak Response = 766754649 M3

M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

Manual Integration/Negative Proof Report

Data Path : I:\Pest12\141118\

Data File : 12141118-11.d Date Inj'd: 11/18/2014 6:15 am

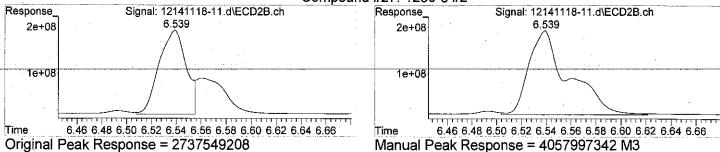
Sample : wg740493-3,42e,,

: P12_pcb 02-20-14_ugL_1660.m QMethod

Operator : pest12:kb Instrument : Pest12

Quant Date: 11/19/2014 0:55 am

Compound #27: 1260-5 #2



M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification

from 2 partially resolved peaks not being split.



ANALYTICAL REPORT

Lab Number: L1426671

Client: Cooperstown Environmental LLC

23 Main Street

Andover, MA 01810-0814

ATTN: Richard Gang Phone: (978) 470-4755

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/07/14

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1426671 **Report Date:** 11/07/14

Alpha Sample II	D Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1426671	I-01 SED-01	SOIL	WORCESTER, MA	11/06/14 11:30	11/06/14
L1426671	I-02 PE-40	SOIL	WORCESTER, MA	11/06/14 11:39	11/06/14
L1426671	I-03 PE-41	SOIL	WORCESTER, MA	11/06/14 12:10	11/06/14
L1426671	I-04 SED-02	SOIL	WORCESTER, MA	11/06/14 12:11	11/06/14
L1426671	I-05 PE-42	SOIL	WORCESTER, MA	11/06/14 13:15	11/06/14
L1426671	I-06 PE-43	SOIL	WORCESTER, MA	11/06/14 15:13	11/06/14



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426671Project Number:Not SpecifiedReport Date:11/07/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	A response to questions G, H and I is required for "Presumptive Certainty" status							
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES						
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO						
ı	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO						

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426671

Project Number: Not Specified Report Date: 11/07/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426671

Project Number: Not Specified Report Date: 11/07/14

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Metals.

Metals

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Wildle M. Morris

Authorized Signature:

Title: Technical Director/Representative

Date: 11/07/14



ORGANICS



PCBS



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426671

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/06/14 11:39

Client ID: PE-40 Date Received: 11/06/14 Sample Location: WORCESTER, MA Field Prep: Not Speci

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/06/14 17:16

Analytical Date: 11/07/14 13:23 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/07/14
Percent Solids: 84% Cleanup Method: EPA 3660B

Percent Solids: 84% Cleanup Method: EPA 366 Cleanup Date: 11/07/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column			
MCP Polychlorinated Biphenyls - Westborough Lab										
Aroclor 1016	ND		ug/kg	39.1		1	Α			
Aroclor 1221	ND		ug/kg	39.1		1	Α			
Aroclor 1232	ND		ug/kg	39.1		1	Α			
Aroclor 1242	ND		ug/kg	39.1		1	Α			
Aroclor 1248	ND		ug/kg	39.1		1	Α			
Aroclor 1254	ND		ug/kg	39.1		1	Α			
Aroclor 1260	ND		ug/kg	39.1		1	Α			
Aroclor 1262	ND		ug/kg	39.1		1	Α			
Aroclor 1268	ND		ug/kg	39.1		1	Α			
PCBs, Total	ND		ug/kg	39.1		1	Α			

	Acceptance							
Surrogate	% Recovery	Qualifier	Criteria	Column				
2,4,5,6-Tetrachloro-m-xylene	46		30-150	Α				
Decachlorobiphenyl	36		30-150	Α				
2,4,5,6-Tetrachloro-m-xylene	51		30-150	В				
Decachlorobiphenyl	40		30-150	В				



11/07/14

1

Α

Cleanup Date:

36.9

--

ug/kg

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426671

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1426671-03 Date Collected: 11/06/14 12:10

Client ID: PE-41 Date Received: 11/06/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/06/14 17:16

Analytical Date: 11/07/14 13:36 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/07/14
Percent Solids: 88% Cleanup Method: EPA 3660B

Qualifier MDL **Parameter** Result Units RL**Dilution Factor** Column MCP Polychlorinated Biphenyls - Westborough Lab ND 1 Aroclor 1016 ug/kg 36.9 Α ND Aroclor 1221 ug/kg 36.9 1 Α Aroclor 1232 ND ug/kg 36.9 1 Α --Aroclor 1242 ND 36.9 1 Α ug/kg --ND 1 Aroclor 1248 ug/kg 36.9 Α 1 ND 36.9 Α Aroclor 1254 ug/kg --Aroclor 1260 50.8 ug/kg 36.9 1 В Aroclor 1262 ND ug/kg 36.9 1 Α Aroclor 1268 ND 36.9 1 Α ug/kg --

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		30-150	А
Decachlorobiphenyl	61		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	75		30-150	В
Decachlorobiphenyl	63		30-150	В

50.8



PCBs, Total

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426671

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/06/14 13:15

Client ID: PE-42 Date Received: 11/06/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Extraction Method: EPA 3540C Matrix: Soil Analytical Method: 97,8082A **Extraction Date:** 11/06/14 17:16 Analytical Date: 11/07/14 13:49 Cleanup Method: EPA 3665A Analyst: JT Cleanup Date: 11/07/14

Percent Solids: 86% Cleanup Method: EPA 3660B Cleanup Date: 11/07/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column			
MCP Polychlorinated Biphenyls - Westborough Lab										
Aroclor 1016	ND		ug/kg	37.3		1	Α			
Aroclor 1221	ND		ug/kg	37.3		1	Α			
Aroclor 1232	ND		ug/kg	37.3		1	Α			
Aroclor 1242	ND		ug/kg	37.3		1	Α			
Aroclor 1248	ND		ug/kg	37.3		1	Α			
Aroclor 1254	ND		ug/kg	37.3		1	Α			
Aroclor 1260	180		ug/kg	37.3		1	В			
Aroclor 1262	ND		ug/kg	37.3		1	Α			
Aroclor 1268	ND		ug/kg	37.3		1	Α			
PCBs, Total	180		ug/kg	37.3		1	Α			

	Acceptance							
Surrogate	% Recovery	Qualifier	Criteria	Column				
2,4,5,6-Tetrachloro-m-xylene	61		30-150	Α				
Decachlorobiphenyl	46		30-150	Α				
2,4,5,6-Tetrachloro-m-xylene	63		30-150	В				
Decachlorobiphenyl	48		30-150	В				



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426671

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/06/14 15:13

Client ID: PE-43 Date Received: 11/06/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/06/14 17:16
Analytical Date: 11/07/14 14:03 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/07/14
Percent Solids: 84% Cleanup Method: EPA 3660B
Cleanup Date: 11/07/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column			
MCP Polychlorinated Biphenyls - Westborough Lab										
Aroclor 1016	ND		ug/kg	38.5		1	Α			
Aroclor 1221	ND		ug/kg	38.5		1	Α			
Aroclor 1232	ND		ug/kg	38.5		1	Α			
Aroclor 1242	ND		ug/kg	38.5		1	Α			
Aroclor 1248	ND		ug/kg	38.5		1	Α			
Aroclor 1254	ND		ug/kg	38.5		1	Α			
Aroclor 1260	ND		ug/kg	38.5		1	В			
Aroclor 1262	ND		ug/kg	38.5		1	Α			
Aroclor 1268	ND		ug/kg	38.5		1	Α			
PCBs, Total	ND		ug/kg	38.5		1	Α			

	Acceptance							
Surrogate	% Recovery	Qualifier	Criteria	Column				
2,4,5,6-Tetrachloro-m-xylene	69		30-150	Α				
Decachlorobiphenyl	52		30-150	Α				
2,4,5,6-Tetrachloro-m-xylene	72		30-150	В				
Decachlorobiphenyl	57		30-150	В				



11/07/14 Serial_No:11071415:58

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/07/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A Analytical Date: 97,8082A 11/07/14 14:16

Analyst: JT

Extraction Method: EPA 3540C
Extraction Date: 11/06/14 17:16
Cleanup Method: EPA 3665A
Cleanup Date: 11/07/14
Cleanup Method: EPA 3660B
Cleanup Date: 11/07/14

L1426671

Lab Number:

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls -	Westborough	Lab for sa	mple(s):	02-03,05-06	Batch:	WG738278-1
Aroclor 1016	ND		ug/kg	33.2		Α
Aroclor 1221	ND		ug/kg	33.2		A
Aroclor 1232	ND		ug/kg	33.2		А
Aroclor 1242	ND		ug/kg	33.2		А
Aroclor 1248	ND		ug/kg	33.2		А
Aroclor 1254	ND		ug/kg	33.2		Α
Aroclor 1260	ND		ug/kg	33.2		Α
Aroclor 1262	ND		ug/kg	33.2		А
Aroclor 1268	ND		ug/kg	33.2		А
PCBs, Total	ND		ug/kg	33.2		Α

			Acceptance				
Surrogate	%Recovery	Qualifier	Criteria	Column			
2,4,5,6-Tetrachloro-m-xylene	61		30-150	Α			
Decachlorobiphenyl	47		30-150	Α			
2,4,5,6-Tetrachloro-m-xylene	61		30-150	В			
Decachlorobiphenyl	51		30-150	В			



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426671

Report Date:

11/07/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qua	%Recover Limits	-	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westbor	ough Lab Associat	ed sample(s):	02-03,05-06	Batch:	WG738278-2	WG738	3278-3			
Aroclor 1016	90		87		40-140		3		30	Α
Aroclor 1260	72		75		40-140		4		30	А

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		75		30-150	Α
Decachlorobiphenyl	62		66		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	75		74		30-150	В
Decachlorobiphenyl	62		65		30-150	В



METALS



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426671

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1426671-02 Date Collected: 11/06/14 11:39

Client ID: PE-40 Date Received: 11/06/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil
Percent Solids: 84%

Percent Solids:	84%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	RL MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	Westboro	ough Lab									
Arsenic, Total	17		mg/kg	0.48		1	11/06/14 22:08	8 11/07/14 10:08	EPA 3050B	97,6010C	JH
Barium, Total	35		mg/kg	0.48		1	11/06/14 22:08	8 11/07/14 10:08	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.48		1	11/06/14 22:08	8 11/07/14 10:08	EPA 3050B	97,6010C	JH
Chromium, Total	20		mg/kg	0.48		1	11/06/14 22:08	8 11/07/14 10:08	EPA 3050B	97,6010C	JH
Lead, Total	6.0		mg/kg	2.4		1	11/06/14 22:08	8 11/07/14 10:08	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.083		1	11/07/14 09:20	0 11/07/14 11:13	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.4		1	11/06/14 22:08	8 11/07/14 10:08	EPA 3050B	97,6010C	JH
Silver, Total	ND		mg/kg	0.48		1	11/06/14 22:08	8 11/07/14 10:08	EPA 3050B	97,6010C	JH



11/06/14 12:10

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426671

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1426671-03 Date Collected:

Client ID: PE-41 Date Received: 11/06/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 88%

Dilution Date Date Prep **Analytical** Method Factor **Prepared** Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 18 mg/kg 0.43 1 11/06/14 22:08 11/07/14 10:12 EPA 3050B 97,6010C JΗ 43 1 11/06/14 22:08 11/07/14 10:12 EPA 3050B 97,6010C JΗ Barium, Total mg/kg 0.43 ND 1 97,6010C Cadmium, Total 0.43 11/06/14 22:08 11/07/14 10:12 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 22 mg/kg 0.43 1 11/06/14 22:08 11/07/14 10:12 EPA 3050B JΗ 6.9 2.2 1 11/06/14 22:08 11/07/14 10:12 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.076 1 11/07/14 09:20 11/07/14 11:14 EPA 7471B 97,7471B MC mg/kg --Selenium, Total ND mg/kg 2.2 --1 11/06/14 22:08 11/07/14 10:12 EPA 3050B 97,6010C JΗ Silver, Total ND mg/kg 0.43 1 11/06/14 22:08 11/07/14 10:12 EPA 3050B 97,6010C JΗ



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426671

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1426671-05 Date Collected: 11/06/14 13:15

Client ID: PE-42 Date Received: 11/06/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil

Percent Solids: 86% Dilution Date Date Prep **Analytical** Method Factor **Prepared** Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 26 mg/kg 0.46 1 11/06/14 22:08 11/07/14 10:16 EPA 3050B 97,6010C JΗ 32 1 11/06/14 22:08 11/07/14 10:16 EPA 3050B 97,6010C JΗ Barium, Total mg/kg 0.46 ND 1 97,6010C Cadmium, Total 0.46 11/06/14 22:08 11/07/14 10:16 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 20 mg/kg 0.46 1 11/06/14 22:08 11/07/14 10:16 EPA 3050B JΗ 14 2.3 1 11/06/14 22:08 11/07/14 10:16 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.073 1 11/07/14 09:20 11/07/14 11:16 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.3 --1 11/06/14 22:08 11/07/14 10:16 EPA 3050B JΗ Silver, Total ND mg/kg 0.46 1 11/06/14 22:08 11/07/14 10:16 EPA 3050B 97,6010C JΗ



Not Specified

Project Name: Lab Number: HOLY CROSS FIELDHOUSE L1426671

Project Number: Not Specified **Report Date:** 11/07/14

SAMPLE RESULTS

Date Collected: Lab ID: L1426671-06 11/06/14 15:13

Client ID: PE-43 Date Received: 11/06/14 Field Prep:

WORCESTER, MA Sample Location: Matrix: Soil

Percent Solids: 84%

reident Solids.	0470					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	Westhor	ough Lah									
Wei Total Wetais	VVCStbore	Jugii Lub									
Arsenic, Total	17		mg/kg	0.46		1	11/06/14 22:08	3 11/07/14 10:39	EPA 3050B	97,6010C	JH
Barium, Total	40		mg/kg	0.46		1	11/06/14 22:08	3 11/07/14 10:39	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.46		1	11/06/14 22:08	3 11/07/14 10:39	EPA 3050B	97,6010C	JH
Chromium, Total	24		mg/kg	0.46		1	11/06/14 22:08	3 11/07/14 10:39	EPA 3050B	97,6010C	JH
Lead, Total	6.0		mg/kg	2.3		1	11/06/14 22:08	3 11/07/14 10:39	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.078		1	11/07/14 09:20	11/07/14 11:18	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.3		1	11/06/14 22:08	3 11/07/14 10:39	EPA 3050B	97,6010C	JH
Silver, Total	ND		mg/kg	0.46		1	11/06/14 22:08	3 11/07/14 10:39	EPA 3050B	97,6010C	JH



L1426671

Lab Number:

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/07/14

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Wes	stborough Lab for sa	mple(s):	02-03,05	5-06 B	atch: WG73	38326-1			
Arsenic, Total	ND	mg/kg	0.40		1	11/06/14 22:08	11/07/14 09:57	97,6010C	JH
Barium, Total	ND	mg/kg	0.40		1	11/06/14 22:08	11/07/14 09:57	97,6010C	JH
Cadmium, Total	ND	mg/kg	0.40		1	11/06/14 22:08	11/07/14 09:57	97,6010C	JH
Chromium, Total	ND	mg/kg	0.40		1	11/06/14 22:08	11/07/14 09:57	97,6010C	JH
Lead, Total	ND	mg/kg	2.0		1	11/06/14 22:08	11/07/14 09:57	97,6010C	JH
Selenium, Total	ND	mg/kg	2.0		1	11/06/14 22:08	11/07/14 09:57	97,6010C	JH
Silver, Total	ND	mg/kg	0.40		1	11/06/14 22:08	11/07/14 09:57	97,6010C	JH

Prep Information

Digestion Method: EPA 3050B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals -	Westborough Lab for sa	ample(s):	02-03,05	-06 Ba	atch: WG73	38400-1			
Mercury, Total	ND	mg/kg	0.083		1	11/07/14 09:20	11/07/14 11:07	97,7471B	MC

Prep Information

Digestion Method: EPA 7471B



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426671

Report Date:

11/07/14

arameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
ICP Total Metals - Westborough Lab Associat	ed sample(s): 02-0	3,05-06	Batch: WG7383	26-2 WG7	738326-3 SRM Lot N	Number: D0	83-540	
Arsenic, Total	90		106		78-122	16		30
Barium, Total	90		102		82-117	13		30
Cadmium, Total	85		96		82-118	12		30
Chromium, Total	86		98		79-121	13		30
Lead, Total	83		98		81-119	17		30
Selenium, Total	90		102		78-123	13		30
Silver, Total	88		102		74-125	15		30
CP Total Metals - Westborough Lab Associat	ed sample(s): 02-0	3,05-06	Batch: WG7384	00-2 WG7	738400-3 SRM Lot N	Number: D0	83-540	
Mercury, Total	105		107		75-126	2		30



INORGANICS & MISCELLANEOUS



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426671

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1426671-02

Client ID: PE-40

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/06/14 11:39
Date Received: 11/06/14

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	83.6		%	0.100	NA	1	_	11/06/14 22:23	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426671

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1426671-03

Client ID: PE-41

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/06/14 12:10

Date Received: 11/06/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	87.6		%	0.100	NA	1	-	11/06/14 22:23	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426671

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1426671-05

Client ID: PE-42

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/06/14 13:15

Date Received: 11/06/14

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - W	estborough Lab)								
Solids, Total	85.8		%	0.100	NA	1	-	11/06/14 22:23	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426671

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1426671-06

Client ID: PE-43

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/06/14 15:13

Date Received: 11/06/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	83.9		%	0.100	NA	1	-	11/06/14 22:23	30,2540G	RT



Lab Duplicate Analysis
Batch Quality Control

Lab Number: **Project Name:** HOLY CROSS FIELDHOUSE L1426671

11/07/14 **Project Number:** Not Specified Report Date:

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab	Associated sample(s): 02-03,05-06	QC Batch ID: WG738347-1	QC Sample:	L142590	6-35 Clien	nt ID: DUP Sample
Solids, Total	93.0	92.7	%	0		20



Lab Number: L1426671

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/07/14

Sample Receipt and Container Information

Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information							
Container ID	Container Type	Cooler	рН	Temp deg C	Pres	Seal	Analysis(*)
L1426671-01A	Amber 250ml unpreserved	Α	N/A	2.4	Υ	Absent	HOLD-METAL(180),HOLD- 8082()
L1426671-02A	Amber 250ml unpreserved	A	N/A	2.4	Y	Absent	MCP-CR-6010T-10(180),MCP- AS-6010T-10(180),MCP- 7471T-10(28),MCP-CD-6010T- 10(180),TS(7),MCP-8082-10- 3540C(365),MCP-AG-6010T- 10(180),MCP-SE-6010T- 10(180),MCP-BA-6010T- 10(180),MCP-PB-6010T- 10(180)
L1426671-03A	Amber 250ml unpreserved	A	N/A	2.4	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426671-04A	Amber 250ml unpreserved	Α	N/A	2.4	Υ	Absent	HOLD-METAL(180),HOLD- 8082()
L1426671-05A	Amber 250ml unpreserved	A	N/A	2.4	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426671-06A	Amber 250ml unpreserved	A	N/A	2.4	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426671Project Number:Not SpecifiedReport Date:11/07/14

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

 Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
 of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426671Project Number:Not SpecifiedReport Date:11/07/14

Data Qualifiers

- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426671Project Number:Not SpecifiedReport Date:11/07/14

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, lodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl. EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene,

Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mq,Mn,Mo,Ni,K,Se,Aq,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY PAGE 1 OF 1						Date Rec'd in Lab: 14/06/14 ALPHA Job #: 2142/6671										
WESTBORO, MA	MANSFIELD, MA	Project Information											g Information			
TEL: 508-898-9220 FAX: 508-898-9193	TEL: 508-822-9300 FAX: 508-822-3288	Project Name: Holy Cross Fieldhouse			ouse	☐ FAX MEMAIL Same as Client info PO#:					#:					
Client Information Project Location: Worcester M						×	ADEx	:	□ Add'l	Delivera	bles			,		
Client: Cope (S	town Environmental	Project #:			Regulatory Requirements/Report Limits											
Address: 23 N	Project Manager: Richard Gang ALPHA Quote #:			State /Fed Program HAKE / EPA Criteria PBs detect imit / IPPM												
Andove				MA	MCP	PRES	UMPTIVE	CERT	AINTY	CT F	REASO	NABLE CONFID	ENCE PRO	то		
Phone: 478-4	Turn-Around Time			Yes No Are MCP Analytical Methods Required?												
Fax:							Yes X No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments) □ Yes X No Are CT RCP (Reasonable Confidence Protocols) Required?									
Email: richarde	Standard RUSH (only copfirmed if pre-approved!) As Indicated															
] "-	Email: richard@coopersownenv.com These samples have been previously analyzed by Alpha These samples have been previously analyzed by Alpha Time:					4/4/	Sol	2	/ /	/ /		/ /	///	SAMPLE	HANDLING	
	Other Project Specific Requirements/Comments/Detection Limits:							etals	' / /	′ /	//		/ /	/ Filtration		L
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-63	PE-41		12:10	SOIL	MA	X	X							I DAY TUR	ME OW	DK
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Page 32 of 32																-



ANALYTICAL REPORT

Lab Number: L1426412

Client: Cooperstown Environmental LLC

23 Main Street

Andover, MA 01810-0814

ATTN: Richard Gang
Phone: (978) 470-4755

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/11/14

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1426412 **Report Date:** 11/11/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1426412-01	PE-25	SOIL	WORCESTER, MA	11/03/14 15:08	11/04/14
L1426412-02	PE-26	SOIL	WORCESTER, MA	11/03/14 15:35	11/04/14
L1426412-03	PE-27	SOIL	WORCESTER, MA	11/03/14 15:36	11/04/14
L1426412-04	PE-28	SOIL	WORCESTER, MA	11/03/14 15:45	11/04/14
L1426412-05	PE-29	SOIL	WORCESTER, MA	11/04/14 11:26	11/04/14
L1426412-06	PE-30	SOIL	WORCESTER, MA	11/04/14 11:27	11/04/14
L1426412-07	PE-31	SOIL	WORCESTER, MA	11/04/14 11:28	11/04/14
L1426412-08	PE-32	SOIL	WORCESTER, MA	11/04/14 11:29	11/04/14
L1426412-09	PE-33	SOIL	WORCESTER, MA	11/04/14 11:30	11/04/14
L1426412-10	PE-35	SOIL	WORCESTER, MA	11/04/14 11:32	11/04/14
L1426412-11	PE-238	SOIL	WORCESTER, MA	11/04/14 14:20	11/04/14



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
Α	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Metals.

Metals

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Custen Walker Cristin Walker

Authorized Signature:

Title: Technical Director/Representative

Date: 11/11/14

ORGANICS



PCBS



11/06/00

Cleanup Date:

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/03/14 15:08

Client ID: PE-25 Date Received: 11/04/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C

Analytical Method: 97,8082A Extraction Date: 11/05/14 02:24

Analytical Date: 11/07/14 07:17 Cleanup Method: EPA 3665A
Analyst: KB Cleanup Date: 11/06/14
Percent Solids: 90% Cleanup Method: EPA 3660B

Qualifier MDL **Parameter** Result Units RL**Dilution Factor** Column MCP Polychlorinated Biphenyls - Westborough Lab ND 1 Aroclor 1016 ug/kg 35.2 Α ND Aroclor 1221 ug/kg 35.2 1 Α Aroclor 1232 ND ug/kg 35.2 1 Α --Aroclor 1242 ND 35.2 1 Α ug/kg --ND 1 Aroclor 1248 ug/kg 35.2 Α 1 ND 35.2 Α Aroclor 1254 ug/kg --233 Aroclor 1260 ug/kg 35.2 1 В Aroclor 1262 ND ug/kg 35.2 1 Α Aroclor 1268 ND 35.2 1 Α ug/kg --PCBs, Total 233 35.2 1 Α ug/kg --

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	Α
Decachlorobiphenyl	61		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	65		30-150	В
Decachlorobiphenyl	75		30-150	В



11/06/14

Cleanup Date:

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/03/14 15:35

Client ID: PE-26 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/05/14 02:24

Analytical Date: 11/07/14 07:34 Cleanup Method: EPA 3665A
Analyst: KB Cleanup Date: 11/06/14
Percent Solids: 88% Cleanup Method: EPA 3660B

Qualifier MDL **Parameter** Result Units RL**Dilution Factor** Column MCP Polychlorinated Biphenyls - Westborough Lab ND 36.8 1 Aroclor 1016 ug/kg Α ND Aroclor 1221 ug/kg 36.8 1 Α Aroclor 1232 ND ug/kg 36.8 1 Α --Aroclor 1242 ND 36.8 1 Α ug/kg --ND 1 Aroclor 1248 ug/kg 36.8 Α 1 ND 36.8 Α Aroclor 1254 ug/kg --Aroclor 1260 ND ug/kg 36.8 1 Α Aroclor 1262 ND ug/kg 36.8 1 Α Aroclor 1268 ND 36.8 1 Α ug/kg --PCBs, Total ND 36.8 1 Α ug/kg --

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		30-150	Α
Decachlorobiphenyl	77		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	79		30-150	В
Decachlorobiphenyl	95		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/03/14 15:36

Client ID: PE-27 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/05/14 02:24
Analytical Date: 11/07/14 07:50 Cleanup Method: EPA 3665A

Analyst: KB Cleanup Date: 11/06/14
Percent Solids: 87% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column	
MCP Polychlorinated Biphenyls - Westborough Lab								
Aroclor 1016	ND		ug/kg	37.7		1	Α	
Aroclor 1221	ND		ug/kg	37.7		1	Α	
Aroclor 1232	ND		ug/kg	37.7		1	Α	
Aroclor 1242	ND		ug/kg	37.7		1	Α	
Aroclor 1248	ND		ug/kg	37.7		1	Α	
Aroclor 1254	ND		ug/kg	37.7		1	В	
Aroclor 1260	ND		ug/kg	37.7		1	В	
Aroclor 1262	ND		ug/kg	37.7		1	Α	
Aroclor 1268	ND		ug/kg	37.7		1	Α	
PCBs, Total	ND		ug/kg	37.7		1	Α	

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	Α
Decachlorobiphenyl	70		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	75		30-150	В
Decachlorobiphenyl	86		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/03/14 15:45

Client ID: PE-28 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/05/14 02:24

Analytical Date: 11/07/14 08:07 Cleanup Method: EPA 3665A
Analyst: KB Cleanup Date: 11/06/14
Percent Solids: 84% Cleanup Method: EPA 3660B

Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column	
MCP Polychlorinated Biphenyls - Westborough Lab								
Aroclor 1016	ND		ug/kg	39.0		1	Α	
Aroclor 1221	ND		ug/kg	39.0		1	Α	
Aroclor 1232	ND		ug/kg	39.0		1	Α	
Aroclor 1242	ND		ug/kg	39.0		1	Α	
Aroclor 1248	ND		ug/kg	39.0		1	Α	
Aroclor 1254	ND		ug/kg	39.0		1	Α	
Aroclor 1260	689		ug/kg	39.0		1	В	
Aroclor 1262	ND		ug/kg	39.0		1	Α	
Aroclor 1268	ND		ug/kg	39.0		1	Α	
PCBs, Total	689		ug/kg	39.0		1	Α	

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	53		30-150	Α
Decachlorobiphenyl	65		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	54		30-150	В
Decachlorobiphenyl	74		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/04/14 11:26

Client ID: PE-29 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/05/14 02:24Analytical Date:11/07/14 08:24Cleanup Method:EPA 3665A

Analyst: KB Cleanup Date: 11/06/14
Percent Solids: 89% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyl	s - Westborough Lab						
Aroclor 1016	ND		ug/kg	36.1		1	Α
Aroclor 1221	ND		ug/kg	36.1		1	Α
Aroclor 1232	ND		ug/kg	36.1		1	Α
Aroclor 1242	ND		ug/kg	36.1		1	Α
Aroclor 1248	ND		ug/kg	36.1		1	Α
Aroclor 1254	ND		ug/kg	36.1		1	В
Aroclor 1260	ND		ug/kg	36.1		1	В
Aroclor 1262	ND		ug/kg	36.1		1	Α
Aroclor 1268	ND		ug/kg	36.1		1	Α
PCBs, Total	ND		ug/kg	36.1		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		30-150	Α
Decachlorobiphenyl	74		30-150	А
2,4,5,6-Tetrachloro-m-xylene	78		30-150	В
Decachlorobiphenyl	90		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-06 Date Collected: 11/04/14 11:27

Client ID: PE-30 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/05/14 02:24
Analytical Date: 11/07/14 08:41 Cleanup Method: EPA 3665A

Analyst: KB Cleanup Date: 11/06/14
Percent Solids: 86% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyl	s - Westborough Lab						
Aroclor 1016	ND		ug/kg	37.6		1	Α
Aroclor 1221	ND		ug/kg	37.6		1	Α
Aroclor 1232	ND		ug/kg	37.6		1	Α
Aroclor 1242	ND		ug/kg	37.6		1	Α
Aroclor 1248	ND		ug/kg	37.6		1	Α
Aroclor 1254	ND		ug/kg	37.6		1	Α
Aroclor 1260	ND		ug/kg	37.6		1	В
Aroclor 1262	ND		ug/kg	37.6		1	Α
Aroclor 1268	ND		ug/kg	37.6		1	Α
PCBs, Total	ND		ug/kg	37.6		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		30-150	A
Decachlorobiphenyl	81		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	85		30-150	В
Decachlorobiphenyl	95		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/04/14 11:28

Client ID: PE-31 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/05/14 02:24
Analytical Date: 11/07/14 08:57 Cleanup Method: EPA 3665A

Analyst: KB Cleanup Date: 11/07/14
Percent Solids: 85% Cleanup Method: EPA 3660B
Cleanup Date: 11/07/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyl	s - Westborough Lab						
Aroclor 1016	ND		ug/kg	38.8		1	Α
Aroclor 1221	ND		ug/kg	38.8		1	Α
Aroclor 1232	ND		ug/kg	38.8		1	Α
Aroclor 1242	ND		ug/kg	38.8		1	Α
Aroclor 1248	ND		ug/kg	38.8		1	Α
Aroclor 1254	ND		ug/kg	38.8		1	Α
Aroclor 1260	ND		ug/kg	38.8		1	Α
Aroclor 1262	ND		ug/kg	38.8		1	Α
Aroclor 1268	ND		ug/kg	38.8		1	Α
PCBs, Total	ND		ug/kg	38.8		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	Α
Decachlorobiphenyl	73		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	67		30-150	В
Decachlorobiphenyl	85		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/04/14 11:29

Client ID: PE-32 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specific

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/05/14 02:24Analytical Date:11/07/14 09:14Cleanup Method:EPA 3665A

Analyst: KB Cleanup Date: 11/06/14
Percent Solids: 86% Cleanup Date: 11/06/14
Cleanup Date: 11/06/14
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyl	s - Westborough Lab						
Aroclor 1016	ND		ug/kg	37.0		1	Α
Aroclor 1221	ND		ug/kg	37.0		1	Α
Aroclor 1232	ND		ug/kg	37.0		1	Α
Aroclor 1242	ND		ug/kg	37.0		1	Α
Aroclor 1248	ND		ug/kg	37.0		1	Α
Aroclor 1254	ND		ug/kg	37.0		1	Α
Aroclor 1260	ND		ug/kg	37.0		1	Α
Aroclor 1262	ND		ug/kg	37.0		1	Α
Aroclor 1268	ND		ug/kg	37.0		1	Α
PCBs, Total	ND		ug/kg	37.0		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	Α
Decachlorobiphenyl	76		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	75		30-150	В
Decachlorobiphenyl	88		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/04/14 11:30

Client ID: PE-33 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/05/14 02:24
Analytical Date: 11/07/14 09:48 Cleanup Method: EPA 3665A

Analyst: KB Cleanup Date: 11/06/14
Percent Solids: 85% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls -	Westborough Lab						
Aroclor 1016	ND		ua/ka	20.6		4	۸
			ug/kg	38.6		l	Α
Aroclor 1221	ND		ug/kg	38.6		1	Α
Aroclor 1232	ND		ug/kg	38.6		1	Α
Aroclor 1242	ND		ug/kg	38.6		1	Α
Aroclor 1248	ND		ug/kg	38.6		1	Α
Aroclor 1254	ND		ug/kg	38.6		1	Α
Aroclor 1260	ND		ug/kg	38.6		1	Α
Aroclor 1262	ND		ug/kg	38.6		1	Α
Aroclor 1268	ND		ug/kg	38.6		1	Α
PCBs, Total	ND		ug/kg	38.6		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	Α
Decachlorobiphenyl	73		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	72		30-150	В
Decachlorobiphenyl	83		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/04/14 11:32

Client ID: PE-35 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/05/14 02:24
Analytical Date: 11/07/14 10:04 Cleanup Method: EPA 3665A

Analyst: KB Cleanup Date: 11/06/14
Percent Solids: 86% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls	- Westborough Lab						
			,,				
Aroclor 1016	ND		ug/kg	37.4		1	Α
Aroclor 1221	ND		ug/kg	37.4		1	Α
Aroclor 1232	ND		ug/kg	37.4		1	Α
Aroclor 1242	ND		ug/kg	37.4		1	Α
Aroclor 1248	ND		ug/kg	37.4		1	Α
Aroclor 1254	ND		ug/kg	37.4		1	Α
Aroclor 1260	ND		ug/kg	37.4		1	Α
Aroclor 1262	ND		ug/kg	37.4		1	Α
Aroclor 1268	ND		ug/kg	37.4		1	Α
PCBs, Total	ND		ug/kg	37.4		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	Α
Decachlorobiphenyl	77		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	74		30-150	В
Decachlorobiphenyl	87		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/04/14 14:20

Client ID: PE-238 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Speci

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/05/14 02:24

Analytical Date: 11/07/14 10:21 Cleanup Method: EPA 3665A
Analyst: KB Cleanup Date: 11/06/14
Percent Solids: 89% Cleanup Method: EPA 3660B

Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls	- Westborough Lab						
Aroclor 1016	ND		ug/kg	35.8		1	А
Aroclor 1221	ND		ug/kg	35.8		1	Α
Aroclor 1232	ND		ug/kg	35.8		1	Α
Aroclor 1242	ND		ug/kg	35.8		1	А
Aroclor 1248	ND		ug/kg	35.8		1	Α
Aroclor 1254	ND		ug/kg	35.8		1	Α
Aroclor 1260	ND		ug/kg	35.8		1	Α
Aroclor 1262	ND		ug/kg	35.8		1	Α
Aroclor 1268	ND		ug/kg	35.8		1	Α
PCBs, Total	ND		ug/kg	35.8		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	76		30-150	А
2,4,5,6-Tetrachloro-m-xylene	72		30-150	В
Decachlorobiphenyl	85		30-150	В



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/11/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A Analytical Date: 97,8082A 11/07/14 10:38

Analyst: KB

Extraction Method: EPA 3540C
Extraction Date: 11/05/14 02:24
Cleanup Method: EPA 3665A
Cleanup Date: 11/07/14
Cleanup Method: EPA 3660B
Cleanup Date: 11/07/14

L1426412

Lab Number:

estborough ND	Lab for sar	nple(s):	01-11	Dotobi	14/0707504	
ND			•	Batch:	WG737581	-1
ND		ug/kg	31.	5		Α
ND		ug/kg	31.	5		Α
ND		ug/kg	31.	5		Α
ND		ug/kg	31.	5		Α
ND		ug/kg	31.	5		А
ND		ug/kg	31.	5		А
ND		ug/kg	31.	5		Α
ND		ug/kg	31.	5		А
ND		ug/kg	31.	5		Α
ND		ug/kg	31.	5		Α
	ND	ND N	ND ug/kg	ND ug/kg 31.4 ND ug/kg 31.4	ND ug/kg 31.5 ND ug/kg 31.5	ND ug/kg 31.5 ND ug/kg 31.5

			Acceptance	;
Surrogate	%Recovery	Qualifier	Criteria	Column
				_
2,4,5,6-Tetrachloro-m-xylene	56		30-150	Α
Decachlorobiphenyl	70		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	62		30-150	В
Decachlorobiphenyl	80		30-150	В



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426412

Report Date:

11/11/14

	LCS		LCSD	%	Recovery			RPD	
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits	Column
MCP Polychlorinated Biphenyls - Westbord	ough Lab Associat	ed sample(s):	01-11 Batch:	WG737581-2	WG737581-3				
Aroclor 1016	62		60		40-140	3		30	Α
Aroclor 1260	70		57		40-140	20		30	А

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		47		30-150	А
Decachlorobiphenyl	72		54		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	64		47		30-150	В
Decachlorobiphenyl	79		58		30-150	В



METALS



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-01 Date Collected: 11/03/14 15:08

Client ID: PE-25 Date Received: 11/04/14

Sample Location: WORCESTER, MA Field Prep: Not Specified Matrix: Soil

Percent Solids: 90%

reiterit Solius.	30 /6					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	Westbord	ough Lab									
Arsenic, Total	16		mg/kg	0.42		1	11/06/14 18:12	2 11/07/14 15:09	EPA 3050B	97,6010C	MG
Barium, Total	32		mg/kg	0.42		1	11/06/14 18:12	2 11/07/14 15:09	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.42		1	11/06/14 18:12	2 11/07/14 15:09	EPA 3050B	97,6010C	MG
Chromium, Total	29		mg/kg	0.42		1	11/06/14 18:12	2 11/07/14 15:09	EPA 3050B	97,6010C	MG
Lead, Total	8.5		mg/kg	2.1		1	11/06/14 18:12	2 11/07/14 15:09	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.074		1	11/07/14 09:20	11/07/14 11:43	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.1		1	11/06/14 18:12	2 11/07/14 15:09	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.42		1	11/06/14 18:12	2 11/07/14 15:09	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified **Report Date:** 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-02 Date Collected: 11/03/14 15:35

Client ID: Date Received: 11/04/14 PE-26 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 88%

Dilution Date Date Prep Analytical

Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals	- Westbord	ough Lab									
Arsenic, Total	21	J	mg/kg	0.45		1	11/06/14 18:12	2 11/07/14 15:43	EPA 3050B	97,6010C	MG
Barium, Total	45		mg/kg	0.45		1	11/06/14 18:12	2 11/07/14 15:43	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.45		1	11/06/14 18:12	2 11/07/14 15:43	EPA 3050B	97,6010C	MG
Chromium, Total	27		mg/kg	0.45		1	11/06/14 18:12	2 11/07/14 15:43	EPA 3050B	97,6010C	MG
Lead, Total	6.7		mg/kg	2.3		1	11/06/14 18:12	2 11/07/14 15:43	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.073		1	11/07/14 09:20	0 11/07/14 11:45	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.3		1	11/06/14 18:12	2 11/07/14 15:43	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.45		1	11/06/14 18:12	2 11/07/14 15:43	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-03 Date Collected: 11/03/14 15:36

Client ID: PE-27 Date Received: 11/04/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil
Percent Solids: 87%

reiterit Solius.	01/0					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	Westboro	ough Lab									
Arsenic, Total	21		mg/kg	0.46		1	11/06/14 18:12	2 11/07/14 15:47	EPA 3050B	97,6010C	MG
Barium, Total	56		mg/kg	0.46		1	11/06/14 18:12	2 11/07/14 15:47	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.46		1	11/06/14 18:12	2 11/07/14 15:47	EPA 3050B	97,6010C	MG
Chromium, Total	28		mg/kg	0.46		1	11/06/14 18:12	2 11/07/14 15:47	EPA 3050B	97,6010C	MG
Lead, Total	7.4		mg/kg	2.3		1	11/06/14 18:12	2 11/07/14 15:47	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.076		1	11/07/14 09:20	11/07/14 11:50	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.3		1	11/06/14 18:12	2 11/07/14 15:47	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.46		1	11/06/14 18:12	2 11/07/14 15:47	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-04 Date Collected: 11/03/14 15:45

Client ID: PE-28 Date Received: 11/04/14

Sample Location: WORCESTER, MA Field Prep: Not Specified Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Factor	Date Prepared	Date Analyzed	Prep Method	Method	Analyst
MCP Total Metals	s - Westbord	ough Lab									
Arsenic, Total	25		mg/kg	0.46		1	11/06/14 18:12	11/07/14 15:51	EPA 3050B	97,6010C	MG
Barium, Total	60		mg/kg	0.46		1	11/06/14 18:12	11/07/14 15:51	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.46		1	11/06/14 18:12	11/07/14 15:51	EPA 3050B	97,6010C	MG
Chromium, Total	25		mg/kg	0.46		1	11/06/14 18:12	11/07/14 15:51	EPA 3050B	97,6010C	MG
Lead, Total	9.8		mg/kg	2.3		1	11/06/14 18:12	11/07/14 15:51	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.077		1	11/07/14 09:20	11/07/14 11:52	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.3		1	11/06/14 18:12	11/07/14 15:51	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.46		1	11/06/14 18:12	11/07/14 15:51	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-05 Date Collected: 11/04/14 11:26

Client ID: PE-29 Date Received: 11/04/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals -	Westboro	ough Lab									
Arsenic, Total	21		mg/kg	0.44		1	11/06/14 18:12	11/07/14 15:54	EPA 3050B	97,6010C	MG
Barium, Total	57		mg/kg	0.44		1	11/06/14 18:12	11/07/14 15:54	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.44		1	11/06/14 18:12	11/07/14 15:54	EPA 3050B	97,6010C	MG
Chromium, Total	27		mg/kg	0.44		1	11/06/14 18:12	11/07/14 15:54	EPA 3050B	97,6010C	MG
Lead, Total	6.1		mg/kg	2.2		1	11/06/14 18:12	11/07/14 15:54	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.071		1	11/07/14 09:20	11/07/14 11:54	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.2		1	11/06/14 18:12	11/07/14 15:54	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.44		1	11/06/14 18:12	11/07/14 15:54	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Report Date: Not Specified 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-06 Date Collected: 11/04/14 11:27

Client ID: PE-30 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

mg/kg

0.45

Matrix: Soil

Silver, Total

Percent Solids: 86% Dilution Date Date Prep **Analytical** Method Method Factor Prepared **Analyzed Parameter** Result Qualifier Units RL MDL **Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 24 mg/kg 0.45 1 11/06/14 18:12 11/07/14 15:58 EPA 3050B 97,6010C MG 52 1 11/06/14 18:12 11/07/14 15:58 EPA 3050B 97,6010C MG Barium, Total mg/kg 0.45 ND 1 97,6010C Cadmium, Total 0.45 11/06/14 18:12 11/07/14 15:58 EPA 3050B MG mg/kg 97,6010C Chromium, Total 26 mg/kg 0.45 1 11/06/14 18:12 11/07/14 15:58 EPA 3050B MG 8.5 2.3 1 11/06/14 18:12 11/07/14 15:58 EPA 3050B 97,6010C MG Lead, Total mg/kg Mercury, Total ND 0.074 1 11/07/14 09:20 11/07/14 11:55 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.3 --1 11/06/14 18:12 11/07/14 15:58 EPA 3050B MG ND 1 11/06/14 18:12 11/07/14 15:58 EPA 3050B 97,6010C MG



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Report Date: Not Specified 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-07

ND

ND

mg/kg

mg/kg

2.3

0.46

Date Collected: 11/04/14 11:28 Client ID: PE-31 Date Received: 11/04/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 85%

Selenium, Total

Silver, Total

Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 13 mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:02 EPA 3050B 97,6010C MG 49 1 11/06/14 18:12 11/07/14 16:02 EPA 3050B 97,6010C MG Barium, Total mg/kg 0.46 ND 1 97,6010C Cadmium, Total 0.46 11/06/14 18:12 11/07/14 16:02 EPA 3050B MG mg/kg 97,6010C Chromium, Total 28 mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:02 EPA 3050B MG 8.8 2.3 1 11/06/14 18:12 11/07/14 16:02 EPA 3050B 97,6010C MG Lead, Total mg/kg Mercury, Total ND 0.078 1 11/07/14 09:20 11/07/14 11:57 EPA 7471B 97,7471B MC mg/kg --

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1

1

11/06/14 18:12 11/07/14 16:02 EPA 3050B

11/06/14 18:12 11/07/14 16:02 EPA 3050B



97,6010C

97,6010C

MG

MG

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-08 Date Collected: 11/04/14 11:29

Client ID: PE-32 Date Received: 11/04/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Sample Location: WORCESTER, MA Field Prep: I
Matrix: Soil

Percent Solids: 86%

Dilution Date Date Prep Analytical

Percent Solids: 86%

Dilution Date Date Prep Analytical Method Method Analyzed Method Met

Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals - \	Westbord	ough Lab									
Arsenic, Total	18		mg/kg	0.46		1	11/06/14 18:12	11/07/14 16:06	EPA 3050B	97,6010C	MG
Barium, Total	41		mg/kg	0.46		1	11/06/14 18:12	11/07/14 16:06	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.46		1	11/06/14 18:12	11/07/14 16:06	EPA 3050B	97,6010C	MG
Chromium, Total	29		mg/kg	0.46		1	11/06/14 18:12	11/07/14 16:06	EPA 3050B	97,6010C	MG
Lead, Total	6.2		mg/kg	2.3		1	11/06/14 18:12	11/07/14 16:06	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.073		1	11/07/14 09:20	11/07/14 11:59	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.3		1	11/06/14 18:12	11/07/14 16:06	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.46		1	11/06/14 18:12	11/07/14 16:06	EPA 3050B	97,6010C	MG



11/04/14 11:30

Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-09 Date Collected:

Client ID: PE-33 Date Received: 11/04/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil
Percent Solids: 85%

MCP Total Metals - Westborough Lab Arsenic, Total 21 mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Barium, Total 50 mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Cadmium, Total ND mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Chromium, Total 28 mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Lead, Total 10 mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Mercury, Total ND mg/kg 0.081 1 11/06/14 18:12 11/07/14 16:49 EPA 7471B 97,747 Selenium, Total ND mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010	ercent Johas.	0370					Dilution	Date	Date	Prep	Analytical	
Arsenic, Total 21 mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Barium, Total 50 mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Cadmium, Total ND mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Chromium, Total 28 mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Lead, Total 10 mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Mercury, Total ND mg/kg 0.081 1 11/07/14 09:20 11/07/14 16:49 EPA 7471B 97,747 Selenium, Total ND mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010	ameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
Barium, Total 50 mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Cadmium, Total ND mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Chromium, Total 28 mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Lead, Total 10 mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Mercury, Total ND mg/kg 0.081 1 11/07/14 09:20 11/07/14 16:49 EPA 7471B 97,747 Selenium, Total ND mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010	P Total Metals -	Westboro	ugh Lab									
Cadmium, Total ND mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Chromium, Total 28 mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Lead, Total 10 mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Mercury, Total ND mg/kg 0.081 1 11/07/14 09:20 11/07/14 16:49 EPA 7471B 97,747 Selenium, Total ND mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010	enic, Total	21		mg/kg	0.46		1	11/06/14 18:12	11/07/14 16:10	EPA 3050B	97,6010C	MG
Chromium, Total 28 mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Lead, Total 10 mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Mercury, Total ND mg/kg 0.081 1 11/07/14 09:20 11/07/14 16:49 EPA 7471B 97,747 Selenium, Total ND mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010	um, Total	50		mg/kg	0.46		1	11/06/14 18:12	11/07/14 16:10	EPA 3050B	97,6010C	MG
Lead, Total 10 mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010 Mercury, Total ND mg/kg 0.081 1 11/07/14 09:20 11/07/14 16:49 EPA 7471B 97,747 Selenium, Total ND mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,6010	mium, Total	ND		mg/kg	0.46		1	11/06/14 18:12	11/07/14 16:10	EPA 3050B	97,6010C	MG
Mercury, Total ND mg/kg 0.081 1 11/07/14 09:20 11/07/14 16:49 EPA 7471B 97,747 Selenium, Total ND mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,601	omium, Total	28		mg/kg	0.46		1	11/06/14 18:12	11/07/14 16:10	EPA 3050B	97,6010C	MG
Selenium, Total ND mg/kg 2.3 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,601	d, Total	10		mg/kg	2.3		1	11/06/14 18:12	11/07/14 16:10	EPA 3050B	97,6010C	MG
	cury, Total	ND		mg/kg	0.081		1	11/07/14 09:20	11/07/14 16:49	EPA 7471B	97,7471B	MC
Silver, Total ND mg/kg 0.46 1 11/06/14 18:12 11/07/14 16:10 EPA 3050B 97,601c	enium, Total	ND		mg/kg	2.3		1	11/06/14 18:12	11/07/14 16:10	EPA 3050B	97,6010C	MG
	er, Total	ND		mg/kg	0.46		1	11/06/14 18:12	11/07/14 16:10	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/04/14 11:32

Client ID: PE-35 Date Received: 11/04/14

Sample Location: WORCESTER, MA Field Prep: Not Specified Matrix: Soil

Percent Solids: 86%

reiterit Solius.	00%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	Westbord	ough Lab									
Arsenic, Total	28		mg/kg	0.45		1	11/06/14 18:12	2 11/07/14 16:13	EPA 3050B	97,6010C	MG
Barium, Total	50		mg/kg	0.45		1	11/06/14 18:12	2 11/07/14 16:13	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.45		1	11/06/14 18:12	2 11/07/14 16:13	EPA 3050B	97,6010C	MG
Chromium, Total	33		mg/kg	0.45		1	11/06/14 18:12	2 11/07/14 16:13	EPA 3050B	97,6010C	MG
Lead, Total	7.7		mg/kg	2.2		1	11/06/14 18:12	2 11/07/14 16:13	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.076		1	11/07/14 09:20	11/07/14 16:51	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.2		1	11/06/14 18:12	2 11/07/14 16:13	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.45		1	11/06/14 18:12	2 11/07/14 16:13	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-11 Date Collected: 11/04/14 14:20

Client ID: PE-238 Date Received: 11/04/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil
Percent Solids: 89%

Percent Solids: 89%
Dilution Date Date Prep Analytical
Parameter Result Qualifier Units RL MDL Factor Prepared Analyzed Method Method Analyst

Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	Westbord	ough Lab									
Arsenic, Total	20		mg/kg	0.44		1	11/06/14 18:12	2 11/07/14 16:17	EPA 3050B	97,6010C	MG
Barium, Total	52		mg/kg	0.44		1	11/06/14 18:12	2 11/07/14 16:17	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.44		1	11/06/14 18:12	2 11/07/14 16:17	EPA 3050B	97,6010C	MG
Chromium, Total	20		mg/kg	0.44		1	11/06/14 18:12	11/07/14 16:17	EPA 3050B	97,6010C	MG
Lead, Total	4.6		mg/kg	2.2		1	11/06/14 18:12	11/07/14 16:17	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.072		1	11/07/14 09:20	11/07/14 16:53	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.2		1	11/06/14 18:12	11/07/14 16:17	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.44		1	11/06/14 18:12	11/07/14 16:17	EPA 3050B	97,6010C	MG



L1426412

Lab Number:

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified **Report Date:** 11/11/14

Method Blank Analysis Batch Quality Control

Parameter	Result Quali	fier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Wes	tborough Lab f	or sample(s):	01-11	Batch:	WG738282-1				
Arsenic, Total	ND	mg/kg	0.40		1	11/06/14 18:12	11/07/14 15:31	97,6010C	MG
Barium, Total	ND	mg/kg	0.40		1	11/06/14 18:12	11/07/14 15:31	97,6010C	MG
Cadmium, Total	ND	mg/kg	0.40		1	11/06/14 18:12	11/07/14 15:31	97,6010C	MG
Chromium, Total	ND	mg/kg	0.40		1	11/06/14 18:12	11/07/14 15:31	97,6010C	MG
Lead, Total	ND	mg/kg	2.0		1	11/06/14 18:12	11/07/14 15:31	97,6010C	MG
Selenium, Total	ND	mg/kg	2.0		1	11/06/14 18:12	11/07/14 15:31	97,6010C	MG
Silver, Total	ND	mg/kg	0.40		1	11/06/14 18:12	11/07/14 15:31	97,6010C	MG

Prep Information

Digestion Method: EPA 3050B

Parameter	Result Qu	ıalifier Unit	s RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals -	Westborough La	b for sample(s): 01-08	Batch:	WG738400-	1			
Mercury, Total	ND	mg/ł	g 0.083	3	1	11/07/14 09:20	11/07/14 11:07	97,7471B	MC

Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qua	lifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals	- Westborough Lab	for sample(s):	09-11	Batch:	WG738402-1				
Mercury, Total	ND	mg/kg	0.083		1	11/07/14 09:20	11/07/14 16:43	97,7471B	MC

Prep Information

Digestion Method: EPA 7471B



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426412

Report Date:

11/11/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Westborough Lab Associate	ed sample(s): 01	11 Bate	ch: WG738282-2	WG738282-	3 SRM Lot Number	r: D083-540		
Arsenic, Total	98		98		78-122	0		30
Barium, Total	90		96		82-117	6		30
Cadmium, Total	89		95		82-118	7		30
Chromium, Total	92		98		79-121	6		30
Lead, Total	89		92		81-119	3		30
Selenium, Total	96		102		78-123	6		30
Silver, Total	91		94		74-125	3		30
MCP Total Metals - Westborough Lab Associate	ed sample(s): 01	08 Bate	ch: WG738400-2	WG738400-	3 SRM Lot Number	r: D083-540		
Mercury, Total	105		107		75-126	2		30
MCP Total Metals - Westborough Lab Associate	ed sample(s): 09-	11 Bate	ch: WG738402-2	WG738402-	3 SRM Lot Number	r: D083-540		
Mercury, Total	125		105		75-126	17		30



INORGANICS & MISCELLANEOUS



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-01

Client ID: PE-25

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 15:08

Date Received: 11/04/14

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - '	Westborough Lab)								
Solids, Total	90.4		%	0.100	NA	1	-	11/04/14 20:08	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-02

Client ID: PE-26

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 15:35

Date Received: 11/04/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	87.8		%	0.100	NA	1	-	11/04/14 20:08	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-03

Client ID: PE-27

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 15:36

Date Received: 11/04/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	87.0		%	0.100	NA	1	-	11/04/14 20:08	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-04

Client ID: PE-28

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 15:45

Date Received: 11/04/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	84.3		%	0.100	NA	1	-	11/04/14 20:08	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-05

Client ID: PE-29

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/04/14 11:26

Date Received: 11/04/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	88.6		%	0.100	NA	1	-	11/04/14 20:08	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-06

Client ID: PE-30

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/04/14 11:27

Date Received: 11/04/14

Parameter	Result Qu	ualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab									
Solids, Total	86.4		%	0.100	NA	1	-	11/04/14 20:08	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-07

Client ID: PE-31

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/04/14 11:28

Date Received: 11/04/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	- Westborough Lab									
Solids, Total	84.8		%	0.100	NA	1	_	11/04/14 20:08	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-08

Client ID: PE-32

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/04/14 11:29

Date Received: 11/04/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - \	Westborough Lab)								
Solids, Total	86.4		%	0.100	NA	1	-	11/04/14 20:08	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-09

Client ID: PE-33

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/04/14 11:30

Date Received: 11/04/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	stborough Lab)								
Solids, Total	85.1		%	0.100	NA	1	-	11/04/14 20:08	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-10

Client ID: PE-35

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/04/14 11:32

Date Received: 11/04/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	86.4		%	0.100	NA	1	-	11/04/14 20:08	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426412

Project Number: Not Specified Report Date: 11/11/14

SAMPLE RESULTS

Lab ID: L1426412-11

Client ID: PE-238

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/04/14 14:20

Date Received: 11/04/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Nestborough Lab)								
Solids, Total	89.2		%	0.100	NA	1	-	11/04/14 20:08	30,2540G	RT



Lab Duplicate Analysis
Batch Quality Control

Lab Number: **Project Name:** HOLY CROSS FIELDHOUSE L1426412

11/11/14 **Project Number:** Not Specified Report Date:

Parameter	Native Sam	ple D	uplicate Sampl	le Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab	Associated sample(s): 01-11	QC Batch ID:	WG737515-1	QC Sample: L1	426373-01	Client ID:	DUP Sample
Solids, Total	91.1		91.3	%	0		20



Lab Number: L1426412

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/11/14

Sample Receipt and Container Information

Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1426412-01A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426412-02A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426412-03A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426412-04A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426412-05A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1426412 **Report Date:** 11/11/14

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1426412-06A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1426412-07A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426412-08A	Amber 250ml unpreserved	А	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BB-6010T-10(180)
L1426412-09A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426412-10A	Amber 250ml unpreserved	А	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426412-11A	Amber 250ml unpreserved	Α	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426412Project Number:Not SpecifiedReport Date:11/11/14

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

SRM

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
 of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426412Project Number:Not SpecifiedReport Date:11/11/14

Data Qualifiers

- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426412Project Number:Not SpecifiedReport Date:11/11/14

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, lodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl. EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F; Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mq,Mn,Mo,Ni,K,Se,Aq,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

	CHAIN O	F CU	STOD	Y PAG	SE	OF	Date	Rec'	d in La	ab:		as l	1/14		ALP	HA J	ob #: 142641232
ALPHA		Proposed Parky (Information				Rep	ort l	nform	nation					Billir	ng lini	formation
WESTBORO, MA M TEL: 508-898-9220 T	IANSFIELD, MA EL: 508-822-9300 AX: 508-822-3288	经 对数据。	ame: Hole	y Cross	Field	house	□ F	2000		X	EMAIL				⊠ San	ne as	Client info PO #:
Client Information		Project Lo	ocation:	Morces	ter M		Pom	letto	rv Re	ouire	nents	Repo	rt Lilu	lts			
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Andoveri	MA	ALPHA C	Quote #:				n as l	., sk	□ No		1100	A 1. 41	and Most	hade F	equire	d?	
hone: PARASO	8-8777	Turn-A	round Tin	ie					No	le l	Matrix 5	Snike (MS) Re	quired	on this	SDG	? (If yes see note in Comments)
ax: 978-4	70-4755						O Y	es	No	Are	CTRO	P (Re	asonab	le Con	ridence	Prote	ocols) Required?
imail: richard@ 0	ooperatownenu.com	Standa Date Du	e: 1	RUSH (only o	or Fol	K	ANALYON	0	*		//	/ /		/ /	//		SAMPLE HANDLING
These samples have I	been previously analyzed by Alpha cific Requirements/Comn	1/11/14	/ potion Lim	Harken	7 Somb	100	J.	/ 4	Z SEL	/ /	/ /		//	/	/	//	/ Filtration Done
If MS is required , indication (Note: All CAM method)	ate in Sample Specific Comments ts for inorganic analyses require N 3546C 6FSW-84		es and what to	mit < 1	performed ppm Sample	I. Sampler's	Pco 4h	5	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		//	//		//	//	/.	Not needed Lab to do Preservation Lab to do (Please specify below)
ALPHA Lab ID (Lab Use Only)	Sample ID		Date	ection Time	Matrix	Initials	A	Q	1	//		1	/_/	+		+	Sample Specific Comments
10412 -a	PE-25		11/3/14	3:08	SOIL	AN	X	X		-	+			+			
-07	PE-26			3:35			X	X				-		+			
-03	PE-27			3:36			×	X			4			-		-	
- 04	PE-28		1	3:45			X	X		- 0	4			1		-	
	PE-29		1/4/14	11:26			X	X						4	1		
-05	PE-30		1	11:27			X	X							1		
-06	PE-31			11:28			X	X									
-07	PE-32			11:29	1000		X	X				WIII			1 - 1		
-08	PE-33			11:30	Mil		X	X									I DAY TURNAROUND
-09	PE-34		1	11:31	1	1	X	X									TIME
	With the state of		V	11.0	Co	ntainer Type	G	G									Please print clearly, legibly and co pletely. Samples can not be logge
PLEASE ANSWER	QUESTIONS ABOVE!				27.5	Preservative	1	-	_								in and turnaround time clock will r start until any ambiguities are res
MA MCP)		Relina	quished By:		11/4	Date/Time		Pel	Cy	eceive	d By: ₄	1	11/4	1. 1	te/Tim	11	All samples submitted are subject Alpha's Terms and Conditions.
FORM NO: 01-01 (rev. 18-Ja		J'III	un		11/4/	41620	+ (XI	y Chi	umg	n		11	ulu	16	10	See reverse side.

These samples have been previously analyzed by Alpha	limit NGE PROTO
TEL: 508-898-2200 TEL: 508-898-2200 FAX: 508-898-2103 FAX: 508-82108	limit NGE PROTO
Client: Cooperstown Environmental Project Location: Worcester MA Regulatory Requirements/Report Limits State /Fed Program MASSMCP EPA Criteria PCS < ppm (detect) MAMOPPRESUMPTIVE CERTAINTY CT REASONABLE CONFIDE Andover MA 01810 ALPHA Quote #: MAMOPPRESUMPTIVE CERTAINTY CT REASONABLE CONFIDE Are MCP Analytical Methods Required? Are CT RCP (Reasonable Confidence Protocols) Required on this SDG? (If yes see note and responsed) These samples have been previously analyzed by Alpha Other Project Specific Requirements/Comments which samples and what tests MS to be performed. (Note: All CAM methods for inorganic analyses require MS every 20 soil samples) ALPHALab ID (Lab Use Only) Sample ID Collection Date Time Matrix Initiats Date Time Matrix Initiats Collection Date Time Matrix Initiats Collection Date Time Matrix Initiats Date Time Matrix Initiats Collection Date Time Matrix Initiats DAY X X DAY TURN PE-36 11:35 X X X DAY TURN PE-374	NCE PROTO
Cilent: Cooperstown Environmental Project #: Address: 23 Main Street Project Manager: Richard Gang Andover MA OIBIO ALPHA Quote #: Phone: 978 - 470 - 475S Turn-Around Time These samples have been previously analyzed by Alpha Other Projectic in Sample Specific Comments which samples and what tests MS to be performed. (Note: All CAM methods for inorganic analyses require MS every 20 soil samples) ALPHA Lab ID (Lab Use Only) Sample ID Collection Date Time Matrix State /Fed Program MASSMCP EPA Criteria PCB < Other Project Massers MAMOP PRESUMPTIVE CERTAINTY CT REASONABLE CONFIDE MA MCP PRESUMPTIVE CERTAINTY CT REASON	NCE PROTO
Andover MA 01810 ALPHA Quote #: Phone: 978 - 470 - 475S Turn-Around Time Email: richord@ cooperstauneru.com These samples have been previously analyzed by Alpha Other Project Specific Requirements/Comments/Detaction Limits: MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed. (Note: All CAM methods for inorganic analyses require MS every 20 soil samples) ALPHA Lab ID (Lab Use Only) Sample ID Collection Date Time Matrix Smile Matrix Smile Initials PE-36 III:35 III:35 IIII AN X X X IIII DRY TURN PE-36 IIII DRY TURN NAW MOPPRESUMPTIVE CERTAINTY CT REASONABLE CONFIDER MA MCP PRESUMPTIVE CERTAINTY CT REASONABLE CONFIDER MA MCP PRESUMPTIVE CERTAINTY CT REASONABLE CONFIDER MYes IND Are MCP Analytical Methods Required? Is Matrix Spike (MS) Required on this SDG? (If yes see note Are CT RCP (Reasonable Confidence Protocols) Required? Is Matrix Spike (MS) Required on this SDG? (If yes see note Are CT RCP (Reasonable Confidence Protocols) Required? Is Matrix Spike (MS) Required on this SDG? (If yes see note Are CT RCP (Reasonable Confidence Protocols) Required? In Matrix Spike (MS) Required on this SDG? (If yes see note Are CT RCP (Reasonable Confidence Protocols) Required? In Matrix Spike (MS) Required on this SDG? (If yes see note Are CT RCP (Reasonable Confidence Protocols) Required? In Matrix Spike (MS) Required? Is Matrix Spike (MS) Required on this SDG? (If yes see note Are CT RCP (Reasonable Confidence Protocols) Required? Is Matrix Spike (MS) Required on this SDG? (If yes see note Are CT RCP (Reasonable Confidence Protocols) Required? Is Matrix Spike (MS) Required on this SDG? (If yes see note Are CT RCP (Reasonable Confidence Protocols) Required? Is Matrix Spike (MS) Required on this SDG? (If yes see note Are CT RCP (Reasonable Confidence Protocols) Required? If MS is required, Indicate in Sample Specific Comments which samples and what tests MS to be performed. If MS is required in Matrix Spike (MS) Required on this SDG? (NCE PROTO
Andover MA 01810 ALPHA Quote #: Phone: 978-470-475S Turn-Around Time ARUSH (in) posterined & pre-approved) 1 s Matrix Spike (MS) Required on this SDG? (If yes see note Are CT RCP (Reasonable Confidence Protocols) Required? SAMPLE	
Phone: 978 - 470 - 4755 Fax: Email: richord@ cooperateunenu.com These samples have been previously analyzed by Alpha Other Project Specific Requirements/Comments/Detection Limits: If Ms is required, indicate in Sample Specific Comments which samples and what tests MS to be performed. (Note: All CAM methods for inorganic analyses require MS every 20 soil samples) ALPHA Lab ID (Lab Use Only) Sample ID Collection Date Time Matrix Sample Specific Sample Matrix Sample Specific Are CT RCP (Reasonable Confidence Protocols) Required? Filtration Done With Not red Preservation Lab to d Preservation Matrix Sample Specific Sample Specific Sample Specific Date Time Matrix IDAY TURN PE-36 II.35 IDAY TURN	in Comments)
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Email: richard@ cooperstaunenu.com These samples have been previously analyzed by Alpha	T
#3500 B 3540 C of SW = 846 detect imit < 1 ppm ALPHA Lab ID (Lab Use Only) Sample ID Sample Matrix Initials Q6412 - 10 PE-35 II/4/14 II:32 Soil AN X X IDAY TURN PE-36 II:35 X X IDAY TURN PE-37 IDAY TURN PE-37 IDAY TURN I	ANDLING
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PE-38 2:20 X X 1 DAY 10101	PROUNDS) 1
25-729 2:20 X X	
PE-39 V 2:60 V X X 1 DAY TURA	IAROUND 1
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MA MCP or CT RCP? Will Hywror 11/4/14 Relinquished By: Date/Time Received By: Date/Time Received By: All samples submany 11/4/14 1534 All samples submany 11/4/14 1634 See reverse side	litted are subject to d Conditions.



ANALYTICAL REPORT

Lab Number: L1426411

Client: Cooperstown Environmental LLC

23 Main Street

Andover, MA 01810-0814

ATTN: Richard Gang Phone: (978) 470-4755

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/06/14

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1426411 **Report Date:** 11/06/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1426411-01	PE-34	SOIL	WORCESTER, MA	11/04/14 11:31	11/04/14
L1426411-02	PE-36	SOIL	WORCESTER, MA	11/04/14 11:35	11/04/14
L1426411-03	PE-37	SOIL	WORCESTER, MA	11/04/14 12:37	11/04/14
L1426411-04	PE-38	SOIL	WORCESTER, MA	11/04/14 14:20	11/04/14
L1426411-05	PE-39	SOIL	WORCESTER, MA	11/04/14 14:50	11/04/14

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Penert Date: 41/06/44

Project Number: Not Specified Report Date: 11/06/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
Α	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A re	A response to questions G, H and I is required for "Presumptive Certainty" status								
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES							
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO							
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO							

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426411Project Number:Not SpecifiedReport Date:11/06/14

Case Narrative (continued)

Report Submission

This report contains the results of the RUSH TAT analysis. The results of all other analyses will be issued under separate cover.

MCP Related Narratives

Metals

In reference to question H:

The WG737526-3 LCSD recovery, associated with L1426411-01, -02, -03, and -05, is outside the acceptance criteria for barium (120%). Re-analysis of the LCSD yielded an unacceptable recovery for barium (120%). The LCS recovery was within acceptance criteria for this analyte; therefore, no further action was taken.

The WG737892-6 serial dilution analysis, associated with L1426411-04, had a %D above the acceptance criteria for barium (50%) and chromium (50%).

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Wildle U. Mowig Michelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

Date: 11/06/14



ORGANICS



PCBS



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/04/14 11:31

Client ID: PE-34 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 20:00
Analytical Date: 11/05/14 15:45 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/05/14
Percent Solids: 87% Cleanup Method: EPA 3660B
Cleanup Date: 11/05/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls	- Westborough Lab						
Aroclor 1016	ND		ug/kg	37.4		1	Α
Aroclor 1221	ND		ug/kg	37.4		1	Α
Aroclor 1232	ND		ug/kg	37.4		1	Α
Aroclor 1242	ND		ug/kg	37.4		1	Α
Aroclor 1248	ND		ug/kg	37.4		1	Α
Aroclor 1254	ND		ug/kg	37.4		1	Α
Aroclor 1260	53.6		ug/kg	37.4		1	В
Aroclor 1262	ND		ug/kg	37.4		1	Α
Aroclor 1268	ND		ug/kg	37.4		1	Α
PCBs, Total	53.6		ug/kg	37.4		1	А

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	Α
Decachlorobiphenyl	82		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	80		30-150	В
Decachlorobiphenyl	91		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/04/14 11:35

Client ID: PE-36 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 20:00

Analytical Date: 11/05/14 15:57 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/05/14
Percent Solids: 85% Cleanup Method: EPA 3660B

Cleanup Date: 11/05/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column	
MCP Polychlorinated Biphenyls - Westborough Lab								
	ND		,,	20.0		,		
Aroclor 1016	ND		ug/kg	38.0		1	Α	
Aroclor 1221	ND		ug/kg	38.0		1	Α	
Aroclor 1232	ND		ug/kg	38.0		1	Α	
Aroclor 1242	ND		ug/kg	38.0		1	Α	
Aroclor 1248	ND		ug/kg	38.0		1	Α	
Aroclor 1254	ND		ug/kg	38.0		1	Α	
Aroclor 1260	57.4		ug/kg	38.0		1	В	
Aroclor 1262	ND		ug/kg	38.0		1	Α	
Aroclor 1268	ND		ug/kg	38.0		1	Α	
PCBs, Total	57.4		ug/kg	38.0		1	Α	

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		30-150	Α
Decachlorobiphenyl	77		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	91		30-150	В
Decachlorobiphenyl	90		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: L1426411-03 Date Collected: 11/04/14 12:37

Client ID: PE-37 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 20:00
Analytical Date: 11/05/14 16:10 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/05/14
Percent Solids: 87% Cleanup Method: EPA 3660B
Cleanup Date: 11/05/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls	- Westborough Lab						
Aroclor 1016	ND		ug/kg	37.0		1	Α
Aroclor 1221	ND		ug/kg	37.0		1	Α
Aroclor 1232	ND		ug/kg	37.0		1	Α
Aroclor 1242	ND		ug/kg	37.0		1	Α
Aroclor 1248	ND		ug/kg	37.0		1	Α
Aroclor 1254	ND		ug/kg	37.0		1	Α
Aroclor 1260	ND		ug/kg	37.0		1	Α
Aroclor 1262	ND		ug/kg	37.0		1	Α
Aroclor 1268	ND		ug/kg	37.0		1	Α
PCBs, Total	ND		ug/kg	37.0		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	Α
Decachlorobiphenyl	71		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	81		30-150	В
Decachlorobiphenyl	84		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/04/14 14:20

Client ID: PE-38 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 20:00

Analytical Date: 11/05/14 16:22 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/05/14
Percent Solids: 89% Cleanup Method: EPA 3660B

Cleanup Date: 11/05/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyl	s - Westborough Lab						
Aroclor 1016	ND		ug/kg	36.6		1	Α
Aroclor 1221	ND		ug/kg	36.6		1	Α
Aroclor 1232	ND		ug/kg	36.6		1	Α
Aroclor 1242	ND		ug/kg	36.6		1	Α
Aroclor 1248	ND		ug/kg	36.6		1	Α
Aroclor 1254	ND		ug/kg	36.6		1	Α
Aroclor 1260	ND		ug/kg	36.6		1	Α
Aroclor 1262	ND		ug/kg	36.6		1	Α
Aroclor 1268	ND		ug/kg	36.6		1	Α
PCBs, Total	ND		ug/kg	36.6		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	Α
Decachlorobiphenyl	72		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	84		30-150	В
Decachlorobiphenyl	88		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/04/14 14:50

Client ID: PE-39 Date Received: 11/04/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil **Extraction Method: EPA 3540C** Analytical Method: 97,8082A **Extraction Date:** 11/04/14 20:00 Analytical Date: 11/05/14 16:35 Cleanup Method: **EPA 3665A** JT 11/05/14 Analyst: Cleanup Date:

Percent Solids: 87% Cleanup Method: EPA 3660B Cleanup Date: 11/05/14

Qualifier MDL **Parameter** Result Units RL**Dilution Factor** Column MCP Polychlorinated Biphenyls - Westborough Lab ND 37.6 1 Aroclor 1016 ug/kg Α ND Aroclor 1221 ug/kg 37.6 1 Α Aroclor 1232 ND ug/kg 37.6 1 Α --Aroclor 1242 ND 37.6 1 Α ug/kg --ND 1 Aroclor 1248 ug/kg 37.6 Α 1 ND Α Aroclor 1254 ug/kg 37.6 --Aroclor 1260 ND ug/kg 37.6 1 Α Aroclor 1262 ND ug/kg 37.6 1 Α Aroclor 1268 ND 1 37.6 Α ug/kg --PCBs, Total ND 37.6 1 Α ug/kg --

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	80		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	83		30-150	В
Decachlorobiphenyl	90		30-150	В



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/06/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A Analytical Date: 11/05/14 16:03

Analyst: JT

Extraction Method: EPA 3540C
Extraction Date: 11/04/14 20:00
Cleanup Method: EPA 3665A
Cleanup Date: 11/05/14
Cleanup Date: EPA 3660B
Cleanup Date: 11/05/14

L1426411

Lab Number:

Parameter	Result	Qualifier	Units	RI	-	MDL	Column
MCP Polychlorinated Biphenyls -	Westborough	Lab for sa	mple(s):	01-05	Batch:	WG737510)-1
Aroclor 1016	ND		ug/kg	37.	9		Α
Aroclor 1221	ND		ug/kg	37.	9		Α
Aroclor 1232	ND		ug/kg	37.	9		А
Aroclor 1242	ND		ug/kg	37.	9		Α
Aroclor 1248	ND		ug/kg	37.	9		Α
Aroclor 1254	ND		ug/kg	37.	9		Α
Aroclor 1260	ND		ug/kg	37.	9		Α
Aroclor 1262	ND		ug/kg	37.	9		Α
Aroclor 1268	ND		ug/kg	37.	9		Α
PCBs, Total	ND		ug/kg	37.	9		Α

			Acceptance	;
Surrogate	%Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		30-150	Α
Decachlorobiphenyl	44		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	68		30-150	В
Decachlorobiphenyl	49		30-150	В



Matrix Spike Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426411

Report Date: 11/06/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	RPL Qual Limi	
MCP Polychlorinated Biphenyls	s - Westboro	ugh Lab Asso	ociated sampl	le(s): 01-05	QC Batch I	ID: WG737	510-4 QC S	Sample:	L1426411-04	4 Clien	t ID: PE-38	
Aroclor 1016	ND	225	190	84		-	-		40-140	-	30	А
Aroclor 1260	ND	225	192	85		-	-		40-140	-	30	А

	MS	3	MS	SD	Acceptance	
Surrogate	% Recovery	Qualifier	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74				30-150	Α
Decachlorobiphenyl	72				30-150	Α
2,4,5,6-Tetrachloro-m-xylene	74				30-150	В
Decachlorobiphenyl	71				30-150	В



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426411

Report Date:

11/06/14

	LCS		LCSD	9	6Recovery			RPD	
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits	Column
MCP Polychlorinated Biphenyls - Westbor	ough Lab Associat	ed sample(s):	01-05 Batch:	WG737510-2	2 WG737510-3				
Aroclor 1016	88		96		40-140	9		30	Α
Aroclor 1260	56		63		40-140	12		30	Α

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		88		30-150	Α
Decachlorobiphenyl	57		59		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	85		88		30-150	В
Decachlorobiphenyl	56		60		30-150	В



METALS



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: L1426411-01 Date Collected: 11/04/14 11:31

Client ID: PE-34 Date Received: 11/04/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals -	Westboro	ough Lab									
Arsenic, Total	26		mg/kg	0.45		1	11/04/14 21:40) 11/05/14 13:23	EPA 3050B	97,6010C	JH
Barium, Total	66		mg/kg	0.45		1	11/04/14 21:40) 11/05/14 13:23	EPA 3050B	97,6010C	JH
Cadmium, Total	ND		mg/kg	0.45		1	11/04/14 21:40) 11/05/14 13:23	EPA 3050B	97,6010C	JH
Chromium, Total	31		mg/kg	0.45		1	11/04/14 21:40) 11/05/14 13:23	EPA 3050B	97,6010C	JH
Lead, Total	6.9		mg/kg	2.2		1	11/04/14 21:40) 11/05/14 13:23	EPA 3050B	97,6010C	JH
Mercury, Total	ND		mg/kg	0.074		1	11/05/14 08:55	5 11/05/14 11:07	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.2		1	11/04/14 21:40) 11/05/14 13:23	EPA 3050B	97,6010C	JH
Silver, Total	ND		mg/kg	0.45		1	11/04/14 21:40) 11/05/14 13:23	EPA 3050B	97,6010C	JH



11/04/14 11:35

Date Collected:

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: L1426411-02

Client ID: PE-36 Date Received: 11/04/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 85%

Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed Parameter** Result Qualifier Units RL MDL **Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 22 mg/kg 0.45 1 11/04/14 21:40 11/05/14 13:27 EPA 3050B 97,6010C JΗ 55 1 11/04/14 21:40 11/05/14 13:27 EPA 3050B 97,6010C JΗ Barium, Total mg/kg 0.45 ND 1 97,6010C Cadmium, Total 0.45 11/04/14 21:40 11/05/14 13:27 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 26 mg/kg 0.45 1 11/04/14 21:40 11/05/14 13:27 EPA 3050B JΗ 11 2.2 1 11/04/14 21:40 11/05/14 13:27 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.084 1 11/05/14 08:55 11/05/14 11:09 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.2 --1 11/04/14 21:40 11/05/14 13:27 EPA 3050B JΗ Silver, Total ND mg/kg 0.45 1 11/04/14 21:40 11/05/14 13:27 EPA 3050B 97,6010C JΗ



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: L1426411-03 Date Collected: 11/04/14 12:37

Client ID: PE-37 Date Received: 11/04/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 87%

ND

mg/kg

0.45

Silver, Total

Percent Solids: Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed Parameter** Result Qualifier Units RL MDL **Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 21 mg/kg 0.45 1 11/04/14 21:40 11/05/14 13:31 EPA 3050B 97,6010C JΗ 48 1 97,6010C JΗ Barium, Total mg/kg 0.45 11/04/14 21:40 11/05/14 13:31 EPA 3050B ND 1 97,6010C Cadmium, Total 0.45 11/04/14 21:40 11/05/14 13:31 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 23 mg/kg 0.45 1 11/04/14 21:40 11/05/14 13:31 EPA 3050B JΗ 5.8 2.2 1 11/04/14 21:40 11/05/14 13:31 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.083 1 11/05/14 08:55 11/05/14 11:11 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.2 --1 11/04/14 21:40 11/05/14 13:31 EPA 3050B JΗ

1

11/04/14 21:40 11/05/14 13:31 EPA 3050B



97,6010C

JΗ

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: L1426411-04 Date Collected: 11/04/14 14:20

Client ID: PE-38 Date Received: 11/04/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 89%

Dilution Date Date Prep **Analytical** Method Factor **Prepared** Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 20 mg/kg 0.43 1 11/05/14 19:08 11/05/14 21:34 EPA 3050B 97,6010C JΗ 60 1 97,6010C JΗ Barium, Total mg/kg 0.43 11/05/14 19:08 11/05/14 21:34 EPA 3050B ND 1 97,6010C Cadmium, Total 0.43 11/05/14 19:08 11/05/14 21:34 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 24 mg/kg 0.43 1 11/05/14 19:08 11/05/14 21:34 EPA 3050B JΗ 5.9 2.2 1 11/05/14 19:08 11/05/14 21:34 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.081 1 11/06/14 15:12 11/06/14 16:45 EPA 7471B 97,7471B MC mg/kg --Selenium, Total ND mg/kg 2.2 --1 11/05/14 19:08 11/05/14 21:34 EPA 3050B 97,6010C JΗ Silver, Total ND mg/kg 0.43 1 11/05/14 19:08 11/05/14 21:34 EPA 3050B 97,6010C JΗ



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: L1426411-05 Date Collected: 11/04/14 14:50

Client ID: PE-39 Date Received: 11/04/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil
Percent Solids: 87%

Percent Solids: 87% **Dilution** Date Date Prep **Analytical** Method Factor **Prepared** Method **Analyzed Parameter** Result Qualifier Units RL MDL **Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 25 mg/kg 0.46 1 11/04/14 21:40 11/05/14 13:38 EPA 3050B 97,6010C JΗ 66 1 97,6010C JΗ Barium, Total mg/kg 0.46 11/04/14 21:40 11/05/14 13:38 EPA 3050B ND 1 97,6010C Cadmium, Total 0.46 11/04/14 21:40 11/05/14 13:38 EPA 3050B mg/kg JΗ 97,6010C Chromium, Total 31 mg/kg 0.46 1 11/04/14 21:40 11/05/14 13:38 EPA 3050B JΗ 7.4 2.3 1 11/04/14 21:40 11/05/14 13:38 EPA 3050B 97,6010C JΗ Lead, Total mg/kg Mercury, Total ND 0.075 1 11/05/14 08:55 11/05/14 11:58 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.3 --1 11/04/14 21:40 11/05/14 13:38 EPA 3050B JΗ Silver, Total ND mg/kg 0.46 1 11/04/14 21:40 11/05/14 13:38 EPA 3050B 97,6010C JΗ



Project Name: HOLY CROSS FIELDHOUSE

Lab Number: L1426411 Project Number: Not Specified Report Date: 11/06/14

N

Method	Blank .	Analysis
Batch	Quality	Control

Parameter	Result Qualifi	er Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Wes	tborough Lab fo	or sample(s):	01-03,05	Batch	: WG7375	26-1			
Arsenic, Total	ND	mg/kg	0.40		1	11/04/14 21:40	11/05/14 12:53	97,6010C	JH
Barium, Total	ND	mg/kg	0.40		1	11/04/14 21:40	11/05/14 12:53	97,6010C	JH
Cadmium, Total	ND	mg/kg	0.40		1	11/04/14 21:40	11/05/14 12:53	97,6010C	JH
Chromium, Total	ND	mg/kg	0.40		1	11/04/14 21:40	11/05/14 12:53	97,6010C	JH
Lead, Total	ND	mg/kg	2.0		1	11/04/14 21:40	11/05/14 12:53	97,6010C	JH
Selenium, Total	ND	mg/kg	2.0		1	11/04/14 21:40	11/05/14 12:53	97,6010C	JH
Silver, Total	ND	mg/kg	0.40		1	11/04/14 21:40	11/05/14 12:53	97,6010C	JH

Prep Information

Digestion Method: EPA 3050B

Parameter	Result Qu	alifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals -	Westborough La	o for sample(s)	: 01-03,05	Batch	: WG7375	91-1			
Mercury, Total	ND	mg/kg	0.083		1	11/05/14 08:55	11/05/14 10:54	97,7471B	MC

Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qualifier	. Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - V	Westborough Lab for s	sample(s):	04 Bato	h: WG	737892-1				
Arsenic, Total	ND	mg/kg	0.40		1	11/05/14 19:08	11/05/14 21:23	97,6010C	JH
Barium, Total	ND	mg/kg	0.40		1	11/05/14 19:08	11/05/14 21:23	97,6010C	JH
Cadmium, Total	ND	mg/kg	0.40		1	11/05/14 19:08	11/05/14 21:23	97,6010C	JH
Chromium, Total	ND	mg/kg	0.40		1	11/05/14 19:08	11/05/14 21:23	97,6010C	JH
Lead, Total	ND	mg/kg	2.0		1	11/05/14 19:08	11/05/14 21:23	97,6010C	JH
Selenium, Total	ND	mg/kg	2.0		1	11/05/14 19:08	11/05/14 21:23	97,6010C	JH
Silver, Total	ND	mg/kg	0.40		1	11/05/14 19:08	11/05/14 21:23	97,6010C	JH



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426411

Project Number: Not Specified Report Date: 11/06/14

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 3050B

Parameter	Result Qualifie	er Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	
MCP Total Metals - Wes	stborough Lab for	r sample(s):	04 Bato	h: WG	738224-1				
Mercury, Total	ND	mg/kg	0.083		1	11/06/14 15:12	11/06/14 16:39	97,7471B	MC

Prep Information

Digestion Method: EPA 7471B



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1426411

Report Date: 11/06/14

					0/5			
ırameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
CP Total Metals - Westborough Lab Associ	ated sample(s): 01	03,05	Batch: WG737526-2	WG737	526-3 SRM Lot Num	ber: D083-	540	
Arsenic, Total	106		115		78-122	8		30
Barium, Total	102		120	Q	82-117	16		30
Cadmium, Total	104		104		82-118	0		30
Chromium, Total	108		108		79-121	0		30
Lead, Total	100		103		81-119	3		30
Selenium, Total	109		115		78-123	5		30
Silver, Total	108		108		74-125	0		30
CP Total Metals - Westborough Lab Associ Mercury, Total	ated sample(s): 01-	.03,05	Batch: WG737591-2	WG/3/:	75-126	8 8	540	30
CP Total Metals - Westborough Lab Associ	. , ,	Batch:		737892-3				20
Arsenic, Total	98		98		78-122	0		30
Barium, Total	90		90		82-117	0		30
Cadmium, Total	91		91		82-118	0		30
Chromium, Total	94		94		79-121	0		30
Lead, Total	89		89		81-119	0		30
Selenium, Total	96		96		78-123	0		30
Silver, Total	99		96		74-125	3		30



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Lab Number:

L1426411

Report Date:

11/06/14

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Total Metals - Westborough Lab	Associated sample(s): 04	Batch: WG738224-2 WG738224-3	SRM Lot Number: D	0083-540	
Mercury, Total	110	115	75-126	4	30



Matrix Spike Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1426411

Report Date: 11/06/14

Native Sample	MS Added	MS Found	MS %Recovery			MSD %Recovery		Recovery Limits	RPD Qu	RPD <u>ıal Limit</u> s
gh Lab Assoc	iated sampl	e(s): 04	QC Batch ID: W	/G737892	2-4 QC	Sample: L1426	411-04	Client ID:	PE-38	
20	10.5	28	76		-	-		75-125	-	35
60	175	210	86		-	-		75-125	-	35
ND	4.47	3.4	76		-	-		75-125	-	35
24	17.5	39	86		-	-		75-125	-	35
5.9	44.7	41	78		-	-		75-125	-	35
ND	10.5	9.3	88		-	-		75-125	-	35
ND	26.3	24	91		-	-		75-125	-	35
gh Lab Assoc	iated sampl	e(s): 04	QC Batch ID: W	/G738224	-4 QC	Sample: L1426	411-04	Client ID:	PE-38	
ND	0.152	0.177	117		-	-		75-125	-	35
	Sample The Lab Associate The Sample of the Lab Associate of the Lab As	Sample Added gh Lab Associated sample 20 20 10.5 60 175 ND 4.47 24 17.5 5.9 44.7 ND 10.5 ND 26.3 gh Lab Associated sample	Sample Added Found gh Lab Associated sample(s): 04 20 10.5 28 60 175 210 ND 4.47 3.4 24 17.5 39 5.9 44.7 41 ND 10.5 9.3 ND 26.3 24 gh Lab Associated sample(s): 04	Sample Added Found %Recovery gh Lab Associated sample(s): 04 QC Batch ID: W 20 10.5 28 76 60 175 210 86 ND 4.47 3.4 76 24 17.5 39 86 5.9 44.7 41 78 ND 10.5 9.3 88 ND 26.3 24 91 gh Lab Associated sample(s): 04 QC Batch ID: W	Sample Added Found %Recovery Qual gh Lab Associated sample(s): 04 QC Batch ID: WG737892 20 10.5 28 76 60 175 210 86 ND 4.47 3.4 76 24 17.5 39 86 5.9 44.7 41 78 ND 10.5 9.3 88 ND 26.3 24 91 gh Lab Associated sample(s): 04 QC Batch ID: WG738224	Sample Added Found %Recovery Qual Found gh Lab Associated sample(s): 04 QC Batch ID: WG737892-4 QC 20 10.5 28 76 - 60 175 210 86 - ND 4.47 3.4 76 - 24 17.5 39 86 - 5.9 44.7 41 78 - ND 10.5 9.3 88 - ND 26.3 24 91 - gh Lab Associated sample(s): 04 QC Batch ID: WG738224-4 QC	Sample Added Found %Recovery Qual Found %Recovery gh Lab Associated sample(s): 04 QC Batch ID: WG737892-4 QC Sample: L1426 20 10.5 28 76 - - 60 175 210 86 - - - ND 4.47 3.4 76 - - - 24 17.5 39 86 - - - 5.9 44.7 41 78 - - - ND 10.5 9.3 88 - - - - ND 26.3 24 91 - - - - The Lab Associated sample(s): 04 QC Batch ID: WG738224-4 QC Sample: L1426 - - - - -	Sample Added Found %Recovery Qual Found %Recovery Qual gh Lab Associated sample(s): 04 QC Batch ID: WG737892-4 QC Sample: L1426411-04 QC	Sample Added Found %Recovery Qual Found %Recovery Qual Limits th Lab Associated sample(s): 04 QC Batch ID: WG737892-4 QC Sample: L1426411-04 Client ID: Client ID	Sample Added Found %Recovery Qual Found %Recovery Qual Limits RPD Qual th Lab Associated sample(s): 04 QC Batch ID: WG737892-4 QC Sample: L1426411-04 Client ID: PE-38 20 10.5 28 76 - - - 75-125 - 60 175 210 86 - - - 75-125 - ND 4.47 3.4 76 - - - 75-125 - 24 17.5 39 86 - - - 75-125 - 5.9 44.7 41 78 - - 75-125 - ND 10.5 9.3 88 - - - 75-125 - ND 26.3 24 91 - - - 75-125 - 30 24 91 - - - 75-125 -



Lab Serial Dilution Analysis
Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date:

Lab Number:

L1426411 11/06/14

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
MCP Total Metals - Westborough Lab Associated s	sample(s): 04 QC Batch ID: \	WG737892-6 QC Sa	mple: L14264	11-04 Clier	nt ID: PE-	38
Barium, Total	60	90	mg/kg	50	Q	10
Chromium, Total	24	36	mg/kg	50	Q	10



INORGANICS & MISCELLANEOUS



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: L1426411-01

Client ID: PE-34

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/04/14 11:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	87.1		%	0.100	NA	1	-	11/05/14 00:57	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: L1426411-02

Client ID: PE-36

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/04/14 11:35

Date Received: 11/04/14

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	stborough Lab)								
Solids, Total	85.4		%	0.100	NA	1	-	11/05/14 00:57	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: L1426411-03

Client ID: PE-37

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/04/14 12:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	87.1		%	0.100	NA	1	_	11/05/14 00:57	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: L1426411-04

Client ID: PE-38

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/04/14 14:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - \	Westborough Lab)								
Solids, Total	89.1		%	0.100	NA	1	-	11/05/14 00:57	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

SAMPLE RESULTS

Lab ID: L1426411-05

Client ID: PE-39

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/04/14 14:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	87.2		%	0.100	NA	1	-	11/05/14 00:57	30,2540G	RT



Lab Duplicate Analysis
Batch Quality Control

Lab Number: **Project Name:** HOLY CROSS FIELDHOUSE L1426411

11/06/14 **Project Number:** Not Specified Report Date:

Parameter	Native Sampl	le Duplicate Samp	le Units	RPD	Qual R	PD Limits
General Chemistry - Westborough Lab Associat	ed sample(s): 01-05	QC Batch ID: WG737566-1	QC Sample: L142	26411-01	Client ID: PE-	34
Solids, Total	87.1	87.5	%	0		20



Lab Number: L1426411

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/06/14

Sample Receipt and Container Information

Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Info	ormation	-		Temp			
Container ID	Container Type	Cooler	рН		Pres	Seal	Analysis(*)
L1426411-01A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1426411-02A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1426411-03A	Amber 250ml unpreserved	А	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1426411-04A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MS(),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426411-05A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426411

Project Number: Not Specified Report Date: 11/06/14

Container Information Temp

Container ID Container Type Cooler pH deg C Pres Seal Analysis(*)

Container Comments

L1426411-04A



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426411Project Number:Not SpecifiedReport Date:11/06/14

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

SRM

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
 of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426411Project Number:Not SpecifiedReport Date:11/06/14

Data Qualifiers

- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426411Project Number:Not SpecifiedReport Date:11/06/14

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, lodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl. EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene,

Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mq,Mn,Mo,Ni,K,Se,Aq,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN C	F CUSTODY	PAGEOF	Date Rec'd in Lab:	10/04/14	ALPHA Job#: //426411
WESTBORO, MA MANSFIELD, MA	Project Information		Report Informati	on - Qata Deliverables	Billing Information
TEL: 508-898-9220 TEL: 508-822-9300 FAX: 508-898-9193 FAX: 508-822-3288	Project Name: Holy Cro	ss Fieldhouse	□ FAX 1	X EMAIL	Same as Client info PO#:
Client Information		ester MA		☐ Add'I Deliverables	
Client: Cooperstown Environmenta				rements/Report Limits	
Address: 23 Hain Street		urd Gana			ria Detectlimit 2 ppm PCBs
Andover, MA	ALPHA Quote #:	· · · · · · · · · · · · · · · · · · ·		IPTIVE CERTAINTY C	REASONABLE CONFIDENCE PROTO
Phone: 878.508-8357	Turn-Around Time			Are MCP Analytical Methods I Is Matrix Spike (MS) Required	Required? I on this SDG? (If yes see note in Comments)
Fax: 978-470-4755		**			nfidence Protocols) Required?
Email: richard@ cooperatowneru.com	■ Standard ▼ RUSH @	nty confirmed if pre-approved!) Time:	(/ * /		
☐ These samples have been previously analyzed by Alph	a 11/5/14 Mark	ed samples	ANALYSIS XHET A Meblis		/ / SAMPLE HANDLING A Filtration
Other Project Specific Requirements/Com If MS is required, indicate in Sample Specific Comment		. ha narfarmad	SOUTH SOUTH		/ / / Done #
			\$ 3 ×	/	/ / XX Not needed □ Lab to do
(Note: All CAM methods for inorganic analyses require	6 Destection limit	IPPIM	\\ \s_2\\ \&\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\		Preservation
ALPHA Lab ID	Collection	Sample Sampler's			(Please specify below)
(Lab Use Only) Sample ID	Date Time	Matrix Initials	V //		/ Sample Specific Comments s
086411 PE-25	11/3/14 3:08	SOIL AN	X X		
PE-26	3:35		ХХ		
PE-27	3:36		XX		1
PE-28	√ 3:45		хх		1
PE-29	11/4/14 11:26		ХX		
PE-30	1 11:27		хх		1
PE-3	11:28		XX		1
PE-32	11:29		XX		1
PE-33	11:30		X X		
-01 PE-34	11:31	1 1	xX		I DAY TURNAROUND
PLEASE ANSWER QUESTIONS ABOVE!		Container Type	GG		Please print clearly, legibly and com-
IS YOUR PROJECT		Preservative	A A		pletely. Samples can not be logged in and turnaround time clock will not
MA MCD or CT DCD2	Relinquished By:	Date/Time	Receive		e/Time start until any ambiguities are resolved All samples submitted are subject to
FORM NO: 01-01 (rev. 18-Jan-2010)	Marien .	4/4/14 1530 11/4/14/62 d	For Chumy	ASC Waller	Alpha's Terms and Conditions. See reverse side

Дер на	CHA	IN OF CUSTO) YC	PAGE 2	of <u>2</u>	Date R	ec'd in Lab	11/00	14	ALPHA	Job#: 61426411
WESTBORO, MA	MANSFIELD, MA	Project Informat	ion			Repoi	t Informa	tion - Qata D eli	verables	Billing	Information
TEL: 508-898-922 FAX: 508-898-919		Project Name:	oly Cras	s Fieldh	rouse	□ FAX		M EMAIL		Same	as Client info PO #:
Client Inform	mation			ter Mr		M ADE		□ Add'l Delivera			
Client: Coo	perstown Environ	mental Project #:	12					irements/Repo			
	23 Hain Street	_	lichard	L Gana	(MASSHCP/E			<pre></pre> <pre><</pre>
Ar	ndover MA 018				3						NABLE CONFIDENCE PROTO
Phone: q	778-470-475S	Turn-Around Ti	ne			YALYes YALYes		Are MCP Analytic Is Matrix Spike (I		•	DG? (If yes see note in Comments)
Fax:		M ,Standard D	бынен			☐ Yes		Are CT RCP (Rea	asonable Cor	ifidence Pr	otocols) Required?
Email: richo	ord@ cooperatowne	Bate Due:	**************************************	confirmed if pre-app	proved!)		1. 10	/ / / /	//	///	0
_	oles have been previously analyz	Date Due.	rked:	sample:	S	AWALISIS	A 8 Metals		////	/ / /	SAMPLE HANDLING
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(Note: All CA	M methods for inorganic analyse	es require MS every 20 soil samples)		se penormea.		/ /^	00/	/ / / /		///	/ Not needed Lab to do
*3500 B	/3540C of SW-8	846 detect limit <1	PPM			/ 9/	示 / /	' / / /	///		Preservation T
ALPHA Lab	Andre 1st	ple ID Coll	ection	Sample	Sampler's	\\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	รั้ /		/ / /		(Please specify below)
(Lab Use On		Date	Time	Matrix	Initials		/ /-	/ / / /	- / /-	/ /	Sample Specific Comments
2411	PE-35	11/4/14	11:32	Soil	AN	XX					I DAY TURN AROUND ,
	-02 PE-36		11:35			XX					
	3 PE-37		12:37			XX					IDAY TURN AROUND
	-a PE-38		2:20			XX					1 DAY TURM PROUNDS 1
	PE-238		2:20			XX					
	-05 PE-39		2:50			хх					DAY TURNAROWD
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PLEASE AN	NSWER QUESTIONS ABOV	/E!			iner Type	GG					Please print clearly, legibly and com- pletely. Samples can not be logged
IS YOU	R PROJECT 1		·		eservative	AA					in and furnaround time clock will not start until any ambiguities are resolved.
	P or CT RCP?	Relinquished By:		11/4/14	e/Time 4		Receiv	ed By: ≥✓ ﴿ ﴿ ﴾ '		/Time エンダスク	
FORM NO: 01-01 (re		our of the		11/4/14		\\ \delta a	Milun	ngr	1/14/14	1620	Alpha's Terms and Conditions. See reverse side.



ANALYTICAL REPORT

Lab Number: L1426293

Client: Cooperstown Environmental LLC

23 Main Street

Andover, MA 01810-0814

ATTN: Richard Gang
Phone: (978) 470-4755

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/10/14

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1426293 **Report Date:** 11/10/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1426293-01	PE-16	SOIL	WORCESTER, MA	11/03/14 14:30	11/03/14
L1426293-02	PE-217	SOIL	WORCESTER, MA	11/03/14 14:33	11/03/14
L1426293-03	PE-17	SOIL	WORCESTER, MA	11/03/14 14:34	11/03/14
L1426293-04	PE-18	SOIL	WORCESTER, MA	11/03/14 14:39	11/03/14
L1426293-05	PE-19	SOIL	WORCESTER, MA	11/03/14 14:42	11/03/14
L1426293-06	PE-20	SOIL	WORCESTER, MA	11/03/14 14:47	11/03/14
L1426293-07	PE-21	SOIL	WORCESTER, MA	11/03/14 14:51	11/03/14
L1426293-08	PE-22	SOIL	WORCESTER, MA	11/03/14 14:55	11/03/14
L1426293-09	PE-23	SOIL	WORCESTER, MA	11/03/14 15:02	11/03/14
L1426293-10	PE-24	SOIL	WORCESTER, MA	11/03/14 15:05	11/03/14



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
Α	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status									
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES							
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO							
ı	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO							

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Metals.

PCBs

L1426293-09 has elevated detection limits due to the dilution required by matrix interferences encountered during the concentration of the sample.

Metals

In reference to question H:

The WG737595-4 MS recovery, performed on L1426293-03, is outside the acceptance criteria for mercury (142%). Re-analysis of the MS yielded an unacceptable recovery for mercury in the range of >125%. The LCS recovery was within acceptance criteria for this analyte; therefore, no further action was taken. The WG737835-6 serial dilution analysis, associated with L1426293-03, had a %D above the acceptance criteria for Arsenic (15%), Barium (14%), and Chromium (23%).

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Whole M. Morris

Authorized Signature:

Title: Technical Director/Representative

Date: 11/10/14



ORGANICS



PCBS



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/03/14 14:30

Client ID: PE-16 Date Received: 11/03/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 19:00

Analytical Date: 11/07/14 20:34 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 89% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Wes	stborough Lab						
Average 4040	ND		//	27.4		4	Δ.
Aroclor 1016	ND		ug/kg	37.1		1	Α
Aroclor 1221	ND		ug/kg	37.1		1	Α
Aroclor 1232	ND		ug/kg	37.1		1	Α
Aroclor 1242	ND		ug/kg	37.1		1	Α
Aroclor 1248	ND		ug/kg	37.1		1	Α
Aroclor 1254	ND		ug/kg	37.1		1	Α
Aroclor 1260	ND		ug/kg	37.1		1	Α
Aroclor 1262	ND		ug/kg	37.1		1	Α
Aroclor 1268	ND		ug/kg	37.1		1	Α
PCBs, Total	ND		ug/kg	37.1		1	Α

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria	Column			
2,4,5,6-Tetrachloro-m-xylene	65		30-150	Α			
Decachlorobiphenyl	53		30-150	Α			
2,4,5,6-Tetrachloro-m-xylene	79		30-150	В			
Decachlorobiphenyl	58		30-150	В			



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/03/14 14:33

Client ID: PE-217 Date Received: 11/03/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 19:00
Analytical Date: 11/07/14 20:46 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 89% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyl	s - Westborough Lab						
Aroclor 1016	ND		ug/kg	37.0		1	Α
Aroclor 1221	ND		ug/kg	37.0		1	Α
Aroclor 1232	ND		ug/kg	37.0		1	Α
Aroclor 1242	ND		ug/kg	37.0		1	Α
Aroclor 1248	ND		ug/kg	37.0		1	Α
Aroclor 1254	ND		ug/kg	37.0		1	Α
Aroclor 1260	ND		ug/kg	37.0		1	В
Aroclor 1262	ND		ug/kg	37.0		1	Α
Aroclor 1268	ND		ug/kg	37.0		1	Α
PCBs, Total	ND		ug/kg	37.0		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		30-150	Α
Decachlorobiphenyl	47		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	70		30-150	В
Decachlorobiphenyl	53		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-03 Date Collected: 11/03/14 14:34

Client ID: PE-17 Date Received: 11/03/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 19:00
Analytical Date: 11/07/14 20:59 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 88% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column	
MCP Polychlorinated Biphenyls - Westborough Lab								
Aroclor 1016	ND		ug/kg	37.3		1	Α	
Aroclor 1221	ND		ug/kg	37.3		1	Α	
Aroclor 1232	ND		ug/kg	37.3		1	Α	
Aroclor 1242	ND		ug/kg	37.3		1	Α	
Aroclor 1248	ND		ug/kg	37.3		1	Α	
Aroclor 1254	ND		ug/kg	37.3		1	Α	
Aroclor 1260	165		ug/kg	37.3		1	В	
Aroclor 1262	ND		ug/kg	37.3		1	Α	
Aroclor 1268	ND		ug/kg	37.3		1	Α	
PCBs, Total	165		ug/kg	37.3		1	Α	

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria	Column			
2,4,5,6-Tetrachloro-m-xylene	63		30-150	Α			
Decachlorobiphenyl	51		30-150	Α			
2,4,5,6-Tetrachloro-m-xylene	73		30-150	В			
Decachlorobiphenyl	57		30-150	В			



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-04 Date Collected: 11/03/14 14:39

Client ID: PE-18 Date Received: 11/03/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 19:00
Analytical Date: 11/07/14 21:11 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 86% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column		
MCP Polychlorinated Biphenyls - Westborough Lab									
Aroclor 1016	ND		ug/kg	37.5		1	Α		
Aroclor 1221	ND		ug/kg	37.5		1	Α		
Aroclor 1232	ND		ug/kg	37.5		1	Α		
Aroclor 1242	ND		ug/kg	37.5		1	Α		
Aroclor 1248	ND		ug/kg	37.5		1	Α		
Aroclor 1254	ND		ug/kg	37.5		1	Α		
Aroclor 1260	ND		ug/kg	37.5		1	Α		
Aroclor 1262	ND		ug/kg	37.5		1	Α		
Aroclor 1268	ND		ug/kg	37.5		1	Α		
PCBs, Total	ND		ug/kg	37.5		1	Α		

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria	Column			
2,4,5,6-Tetrachloro-m-xylene	60		30-150	А			
Decachlorobiphenyl	50		30-150	Α			
2,4,5,6-Tetrachloro-m-xylene	73		30-150	В			
Decachlorobiphenyl	57		30-150	В			



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-05 Date Collected: 11/03/14 14:42

Client ID: PE-19 Date Received: 11/03/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 19:00
Analytical Date: 11/07/14 21:23 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 83% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyl	s - Westborough Lab						
Aroclor 1016	ND		ug/kg	39.2		1	Α
Aroclor 1221	ND		ug/kg	39.2		1	Α
Aroclor 1232	ND		ug/kg	39.2		1	Α
Aroclor 1242	ND		ug/kg	39.2		1	Α
Aroclor 1248	ND		ug/kg	39.2		1	Α
Aroclor 1254	ND		ug/kg	39.2		1	Α
Aroclor 1260	ND		ug/kg	39.2		1	Α
Aroclor 1262	ND		ug/kg	39.2		1	Α
Aroclor 1268	ND		ug/kg	39.2		1	Α
PCBs, Total	ND		ug/kg	39.2		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	56		30-150	Α
Decachlorobiphenyl	43		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	70		30-150	В
Decachlorobiphenyl	52		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/03/14 14:47

Client ID: PE-20 Date Received: 11/03/14 Sample Location: WORCESTER, MA Field Prep: Not Specification

Output Description: PE-20 Date Received: 11/03/14

Output Description: PE-20 Date Re

Sample Location: WORCESTER, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3540C Analytical Method: 97,8082A Extraction Date: 11/04/14 19:00

Analytical Date: 11/07/14 21:36 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 89% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column	
MCP Polychlorinated Biphenyls - Westborough Lab								
Aroclor 1016	ND		ug/kg	37.2		1	Α	
Aroclor 1221	ND		ug/kg	37.2		1	Α	
Aroclor 1232	ND		ug/kg	37.2		1	Α	
Aroclor 1242	ND		ug/kg	37.2		1	Α	
Aroclor 1248	ND		ug/kg	37.2		1	Α	
Aroclor 1254	ND		ug/kg	37.2		1	Α	
Aroclor 1260	ND		ug/kg	37.2		1	В	
Aroclor 1262	ND		ug/kg	37.2		1	Α	
Aroclor 1268	ND		ug/kg	37.2		1	Α	
PCBs, Total	ND		ug/kg	37.2		1	Α	

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	Α
Decachlorobiphenyl	46		30-150	А
2,4,5,6-Tetrachloro-m-xylene	75		30-150	В
Decachlorobiphenyl	54		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-07 Date Collected: 11/03/14 14:51

Client ID: PE-21 Date Received: 11/03/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 19:00
Analytical Date: 11/07/14 21:48 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 88% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyl	s - Westborough Lab						
Aroclor 1016	ND		ug/kg	37.0		1	Α
Aroclor 1221	ND		ug/kg	37.0		1	Α
Aroclor 1232	ND		ug/kg	37.0		1	А
Aroclor 1242	ND		ug/kg	37.0		1	Α
Aroclor 1248	ND		ug/kg	37.0		1	Α
Aroclor 1254	ND		ug/kg	37.0		1	Α
Aroclor 1260	ND		ug/kg	37.0		1	Α
Aroclor 1262	ND		ug/kg	37.0		1	Α
Aroclor 1268	ND		ug/kg	37.0		1	Α
PCBs, Total	ND		ug/kg	37.0		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	Α
Decachlorobiphenyl	47		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	77		30-150	В
Decachlorobiphenyl	55		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-08 Date Collected: 11/03/14 14:55

Client ID: PE-22 Date Received: 11/03/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/04/14 19:00Analytical Date:11/07/14 22:01Cleanup Method:EPA 3665A

Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 89% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column		
MCP Polychlorinated Biphenyls - Westborough Lab									
Aroclor 1016	ND		ug/kg	35.9		1	Α		
Aroclor 1221	ND		ug/kg	35.9		1	Α		
Aroclor 1232	ND		ug/kg	35.9		1	Α		
Aroclor 1242	ND		ug/kg	35.9		1	Α		
Aroclor 1248	ND		ug/kg	35.9		1	Α		
Aroclor 1254	ND		ug/kg	35.9		1	Α		
Aroclor 1260	ND		ug/kg	35.9		1	Α		
Aroclor 1262	ND		ug/kg	35.9		1	Α		
Aroclor 1268	ND		ug/kg	35.9		1	Α		
PCBs, Total	ND		ug/kg	35.9		1	Α		

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	Α
Decachlorobiphenyl	46		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	74		30-150	В
Decachlorobiphenyl	53		30-150	В



11/06/14

Cleanup Date:

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-09 Date Collected: 11/03/14 15:02

Client ID: PE-23 Date Received: 11/03/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 19:00

Analytical Date: 11/07/14 22:13 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 76% Cleanup Method: EPA 3660B

Qualifier MDL **Parameter** Result Units RL**Dilution Factor** Column MCP Polychlorinated Biphenyls - Westborough Lab ND 2 Aroclor 1016 ug/kg 84.1 Α ND 2 Aroclor 1221 ug/kg 84.1 Α 2 Aroclor 1232 ND ug/kg 84.1 Α --Aroclor 1242 ND 84.1 2 Α ug/kg --ND 2 Aroclor 1248 ug/kg 84.1 Α 2 ND Α Aroclor 1254 ug/kg 84.1 --2 Aroclor 1260 480 ug/kg 84.1 В Aroclor 1262 ND ug/kg 84.1 2 Α Aroclor 1268 ND 2 84.1 Α ug/kg --PCBs, Total 480 84.1 2 Α ug/kg --

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	А
Decachlorobiphenyl	52		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	72		30-150	В
Decachlorobiphenyl	58		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: Date Collected: 11/03/14 15:05

Client ID: PE-24 Date Received: 11/03/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Extraction Method: **EPA 3540C** Matrix: Soil Analytical Method: 97,8082A **Extraction Date:** 11/04/14 19:00 Analytical Date: 11/07/14 22:25 Cleanup Method: EPA 3665A Analyst: JT Cleanup Date: 11/06/14

Percent Solids: 89% Cleanup Method: EPA 3660B Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - We	stborough Lab						
Aroclor 1016	ND		ug/kg	36.5		1	Α
Aroclor 1221	ND		ug/kg	36.5		1	Α
Aroclor 1232	ND		ug/kg	36.5		1	Α
Aroclor 1242	ND		ug/kg	36.5		1	Α
Aroclor 1248	ND		ug/kg	36.5		1	Α
Aroclor 1254	ND		ug/kg	36.5		1	Α
Aroclor 1260	ND		ug/kg	36.5		1	В
Aroclor 1262	ND		ug/kg	36.5		1	Α
Aroclor 1268	ND		ug/kg	36.5		1	Α
PCBs, Total	ND		ug/kg	36.5		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	Α
Decachlorobiphenyl	48		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	74		30-150	В
Decachlorobiphenyl	55		30-150	В



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/10/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A Analytical Date: 97,8082A 11/06/14 13:59

Analyst: JT

Extraction Method: EPA 3540C
Extraction Date: 11/04/14 17:02
Cleanup Method: EPA 3665A
Cleanup Date: 11/05/14
Cleanup Date: EPA 3660B
Cleanup Date: 11/05/14

L1426293

Lab Number:

Parameter	Result	Qualifier	Units	RL	-	MDL	Column
MCP Polychlorinated Biphenyls - \	Vestborough	Lab for sa	mple(s):	01-10	Batch:	WG737487	7-1
Aroclor 1016	ND		ug/kg	33.	1		Α
Aroclor 1221	ND		ug/kg	33.	1		Α
Aroclor 1232	ND		ug/kg	33.	1		Α
Aroclor 1242	ND		ug/kg	33.	1		А
Aroclor 1248	ND		ug/kg	33.	1		Α
Aroclor 1254	ND		ug/kg	33.	1		Α
Aroclor 1260	ND		ug/kg	33.	1		Α
Aroclor 1262	ND		ug/kg	33.	1		Α
Aroclor 1268	ND		ug/kg	33.	1		Α
PCBs, Total	ND		ug/kg	33.	1		Α

			Acceptance					
Surrogate	%Recovery	Qualifier	Criteria	Column				
2,4,5,6-Tetrachloro-m-xylene	85		30-150	Α				
Decachlorobiphenyl	83		30-150	Α				
2,4,5,6-Tetrachloro-m-xylene	84		30-150	В				
Decachlorobiphenyl	91		30-150	В				



Matrix Spike Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426293

Report Date: 11/10/14

	Native	MS	MS	MS		MSD	MSD		Recovery		F	RPD	
Parameter	Sample	Added	Found	%Recovery	Qual	Found	%Recovery	Qual	Limits	RPD	Qual L	imits	<u>Column</u>
MCP Polychlorinated Biphenyls	s - Westboro	ugh Lab Asso	ociated sampl	e(s): 01-10	QC Batch I	D: WG737	487-4 QC S	ample:	L1426293-03	3 Clier	nt ID: PE-	·17	
Aroclor 1016	ND	234	139	59		-	-		40-140	-		30	Α
Aroclor 1260	ND	234	279	57		-	-		40-140	-		30	Α

	MS	3	M:	SD	Acceptance		
Surrogate	% Recovery	Qualifier	% Recovery	Qualifier	Criteria	Column	
2,4,5,6-Tetrachloro-m-xylene	54				30-150	Α	
Decachlorobiphenyl	41				30-150	Α	
2,4,5,6-Tetrachloro-m-xylene	65				30-150	В	
Decachlorobiphenyl	48				30-150	В	



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426293

11/10/14

Report Date:

	LCS			LCSD %Recovery					RPD		
Parameter	%Recovery	Qual	%Reco	very	Qual	Limits	RPD	Qual	Limits	Column	
MCP Polychlorinated Biphenyls - Westboro	ugh Lab Associa	ted sample(s):	01-10	Batch:	WG737487-2	2 WG737487-3					
Aroclor 1016	89		92	2		40-140	3		30	Α	
Aroclor 1260	90		90)		40-140	0		30	А	

LCS		LCSD		Acceptance		
%Recovery	Qual	%Recovery	Qual	Criteria	Column	
91		95		30-150	Α	
91		94		30-150	Α	
90		94		30-150	В	
99		101		30-150	В	
	%Recovery 91 91 91 90	%Recovery Qual 91 91 90	%Recovery Qual %Recovery 91 95 91 94 90 94	%Recovery Qual %Recovery Qual 91 95 91 94 90 94	%Recovery Qual %Recovery Qual Criteria 91 95 30-150 91 94 30-150 90 94 30-150	



METALS



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-01 Date Collected: 11/03/14 14:30

Client ID: PE-16 Date Received: 11/03/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 89%

Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed Parameter** Result Qualifier Units RL MDL **Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 22 mg/kg 0.42 1 11/05/14 16:35 11/07/14 12:01 EPA 3050B 97,6010C BC 53 1 11/05/14 16:35 11/07/14 12:01 EPA 3050B 97,6010C вс Barium, Total mg/kg 0.42 ND 1 97,6010C Cadmium, Total 0.42 11/05/14 16:35 11/07/14 12:01 EPA 3050B вс mg/kg 97,6010C Chromium, Total 28 mg/kg 0.42 1 11/05/14 16:35 11/07/14 12:01 EPA 3050B BC 5.4 2.1 1 11/05/14 16:35 11/07/14 12:01 EPA 3050B 97,6010C вс Lead, Total mg/kg 0.073 Mercury, Total ND 1 11/05/14 08:55 11/05/14 16:13 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.1 --1 11/05/14 16:35 11/07/14 12:01 EPA 3050B BC Silver, Total ND mg/kg 0.42 1 11/05/14 16:35 11/07/14 12:01 EPA 3050B 97,6010C ВС



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-02 Date Collected: 11/03/14 14:33

Client ID: PE-217 Date Received: 11/03/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 89%

Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 23 mg/kg 0.44 1 11/05/14 16:35 11/07/14 12:24 EPA 3050B 97,6010C BC 52 1 11/05/14 16:35 11/07/14 12:24 EPA 3050B 97,6010C вс Barium, Total mg/kg 0.44 ND 1 97,6010C Cadmium, Total 0.44 11/05/14 16:35 11/07/14 12:24 EPA 3050B вс mg/kg 97,6010C Chromium, Total 26 mg/kg 0.44 1 11/05/14 16:35 11/07/14 12:24 EPA 3050B BC 7.0 2.2 1 11/05/14 16:35 11/07/14 12:24 EPA 3050B 97,6010C вс Lead, Total mg/kg Mercury, Total ND 0.075 1 11/05/14 08:55 11/05/14 16:15 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.2 --1 11/05/14 16:35 11/07/14 12:24 EPA 3050B BC Silver, Total ND mg/kg 0.44 1 11/05/14 16:35 11/07/14 12:24 EPA 3050B 97,6010C ВС



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-03 Date Collected: 11/03/14 14:34

Client ID: PE-17 Date Received: 11/03/14

Sample Location: WORCESTER, MA Field Prep: Not Specified Matrix: Soil

Percent Solids: 88%

Percent Solids:	88%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	Mosthor	augh Lah									
IVIOF TOTAL IVICIAIS	· wesibord	ough Lab									
Arsenic, Total	26		mg/kg	0.45		1	11/05/14 16:35	5 11/07/14 11:49	EPA 3050B	97,6010C	ВС
Barium, Total	57		mg/kg	0.45		1	11/05/14 16:35	5 11/07/14 11:49	EPA 3050B	97,6010C	ВС
Cadmium, Total	ND		mg/kg	0.45		1	11/05/14 16:35	5 11/07/14 11:49	EPA 3050B	97,6010C	ВС
Chromium, Total	26		mg/kg	0.45		1	11/05/14 16:35	5 11/07/14 11:49	EPA 3050B	97,6010C	ВС
Lead, Total	7.3		mg/kg	2.2		1	11/05/14 16:35	5 11/07/14 11:49	EPA 3050B	97,6010C	ВС
Mercury, Total	ND		mg/kg	0.072		1	11/05/14 08:55	5 11/05/14 17:05	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.2		1	11/05/14 16:35	5 11/07/14 11:49	EPA 3050B	97,6010C	ВС
Silver, Total	ND		mg/kg	0.45		1	11/05/14 16:35	5 11/07/14 11:49	EPA 3050B	97,6010C	ВС



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-04 Date Collected: 11/03/14 14:39

Client ID: PE-18 Date Received: 11/03/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 86%

Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 27 mg/kg 0.44 1 11/05/14 16:35 11/07/14 12:28 EPA 3050B 97,6010C BC 56 1 11/05/14 16:35 11/07/14 12:28 EPA 3050B 97,6010C вс Barium, Total mg/kg 0.44 ND 1 97,6010C Cadmium, Total 0.44 11/05/14 16:35 11/07/14 12:28 EPA 3050B вс mg/kg 97,6010C Chromium, Total 28 mg/kg 0.44 1 11/05/14 16:35 11/07/14 12:28 EPA 3050B BC 6.3 2.2 1 11/05/14 16:35 11/07/14 12:28 EPA 3050B 97,6010C вс Lead, Total mg/kg Mercury, Total ND 0.082 1 11/05/14 08:55 11/05/14 16:17 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.2 --1 11/05/14 16:35 11/07/14 12:28 EPA 3050B BC Silver, Total ND mg/kg 0.44 1 11/05/14 16:35 11/07/14 12:28 EPA 3050B 97,6010C ВС



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-05 Date Collected: 11/03/14 14:42

Client ID: PE-19 Date Received: 11/03/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Sample Location: WORCESTER, MA Field Prep:

Matrix: Soil

mg/kg

0.46

Percent Solids: 83% Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 24 mg/kg 0.46 1 11/05/14 16:35 11/07/14 12:32 EPA 3050B 97,6010C BC 49 1 11/05/14 16:35 11/07/14 12:32 EPA 3050B 97,6010C вс Barium, Total mg/kg 0.46 ND 0.46 1 97,6010C Cadmium, Total 11/05/14 16:35 11/07/14 12:32 EPA 3050B вс mg/kg 97,6010C Chromium, Total 29 mg/kg 0.46 1 11/05/14 16:35 11/07/14 12:32 EPA 3050B BC 6.0 2.3 1 11/05/14 16:35 11/07/14 12:32 EPA 3050B 97,6010C вс Lead, Total mg/kg Mercury, Total ND 0.075 1 11/05/14 08:55 11/05/14 16:18 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.3 --1 11/05/14 16:35 11/07/14 12:32 EPA 3050B BC

1

11/05/14 16:35 11/07/14 12:32 EPA 3050B



97,6010C

ВС

Silver, Total

ND

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified **Report Date:** 11/10/14

SAMPLE RESULTS

Date Collected: Lab ID: L1426293-06 11/03/14 14:47

Client ID: Date Received: 11/03/14 PE-20 WORCESTER, MA Field Prep: Sample Location: Not Specified

Matrix: Soil

Percent Solids: 89% Analytical Dilution Prep Date Date

Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals	- Westhord	ough Lah									
Wei Total Wetals	VVCStbOIC	bagii Lab									
Arsenic, Total	19		mg/kg	0.43		1	11/05/14 16:35	11/07/14 12:36	EPA 3050B	97,6010C	ВС
Barium, Total	37		mg/kg	0.43		1	11/05/14 16:35	5 11/07/14 12:36	EPA 3050B	97,6010C	ВС
Cadmium, Total	ND		mg/kg	0.43		1	11/05/14 16:35	5 11/07/14 12:36	EPA 3050B	97,6010C	ВС
Chromium, Total	20		mg/kg	0.43		1	11/05/14 16:35	5 11/07/14 12:36	EPA 3050B	97,6010C	ВС
Lead, Total	10		mg/kg	2.2		1	11/05/14 16:35	5 11/07/14 12:36	EPA 3050B	97,6010C	ВС
Mercury, Total	ND		mg/kg	0.070		1	11/05/14 08:55	5 11/05/14 16:20	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.2		1	11/05/14 16:35	5 11/07/14 12:36	EPA 3050B	97,6010C	ВС
Silver, Total	ND		mg/kg	0.43		1	11/05/14 16:35	5 11/07/14 12:36	EPA 3050B	97,6010C	ВС
			J J				,				



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-07 Date Collected: 11/03/14 14:51

Client ID: PE-21 Date Received: 11/03/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 88%

ND

mg/kg

0.42

Silver, Total

Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 24 mg/kg 0.42 1 11/05/14 16:35 11/07/14 12:40 EPA 3050B 97,6010C BC 34 1 11/05/14 16:35 11/07/14 12:40 EPA 3050B 97,6010C вс Barium, Total mg/kg 0.42 0.53 1 97,6010C Cadmium, Total 0.42 11/05/14 16:35 11/07/14 12:40 EPA 3050B вс mg/kg 97,6010C Chromium, Total 23 mg/kg 0.42 1 11/05/14 16:35 11/07/14 12:40 EPA 3050B BC 8.0 2.1 1 11/05/14 16:35 11/07/14 12:40 EPA 3050B 97,6010C вс Lead, Total mg/kg Mercury, Total ND 0.074 1 11/05/14 08:55 11/05/14 16:22 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.1 --1 11/05/14 16:35 11/07/14 12:40 EPA 3050B BC

1

11/05/14 16:35 11/07/14 12:40 EPA 3050B



97,6010C

ВС

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-08 Date Collected: 11/03/14 14:55

Client ID: PE-22 Date Received: 11/03/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil
Percent Solids: 89%

Percent Solids: Dilution Date Date Prep Analytical Method Factor **Prepared** Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 22 mg/kg 0.43 1 11/05/14 16:35 11/07/14 12:44 EPA 3050B 97,6010C BC 44 1 11/05/14 16:35 11/07/14 12:44 EPA 3050B 97,6010C вс Barium, Total mg/kg 0.43 ND 1 97,6010C Cadmium, Total 0.43 11/05/14 16:35 11/07/14 12:44 EPA 3050B вс mg/kg 97,6010C Chromium, Total 25 mg/kg 0.43 1 11/05/14 16:35 11/07/14 12:44 EPA 3050B BC 6.8 2.1 1 11/05/14 16:35 11/07/14 12:44 EPA 3050B 97,6010C вс Lead, Total mg/kg Mercury, Total ND 0.074 1 11/05/14 08:55 11/05/14 16:24 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.1 --1 11/05/14 16:35 11/07/14 12:44 EPA 3050B BC Silver, Total ND mg/kg 0.43 1 11/05/14 16:35 11/07/14 12:44 EPA 3050B 97,6010C ВС



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-09 Date Collected: 11/03/14 15:02

Client ID: PE-23 Date Received: 11/03/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Sample Location: WORCESTER, MA Field Prep:
Matrix: Soil

Percent Solids: 76% Dilution Date Date Prep Analytical Method Factor **Prepared** Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 19 mg/kg 0.50 1 11/05/14 16:35 11/07/14 12:48 EPA 3050B 97,6010C BC 40 1 11/05/14 16:35 11/07/14 12:48 EPA 3050B 97,6010C вс Barium, Total mg/kg 0.50 ND 1 97,6010C Cadmium, Total 0.50 11/05/14 16:35 11/07/14 12:48 EPA 3050B вс mg/kg 97,6010C Chromium, Total 18 mg/kg 0.50 1 11/05/14 16:35 11/07/14 12:48 EPA 3050B BC 22 2.5 1 11/05/14 16:35 11/07/14 12:48 EPA 3050B 97,6010C вс Lead, Total mg/kg Mercury, Total ND 0.085 1 11/05/14 08:55 11/05/14 16:25 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.5 --1 11/05/14 16:35 11/07/14 12:48 EPA 3050B BC Silver, Total ND mg/kg 0.50 1 11/05/14 16:35 11/07/14 12:48 EPA 3050B 97,6010C ВС



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-10 Date Collected: 11/03/14 15:05

Client ID: PE-24 Date Received: 11/03/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil

ND

mg/kg

0.42

Silver, Total

Percent Solids: 89% Dilution Date Date Prep Analytical Method Factor **Prepared** Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 18 mg/kg 0.42 1 11/05/14 16:35 11/07/14 12:52 EPA 3050B 97,6010C BC 34 1 11/05/14 16:35 11/07/14 12:52 EPA 3050B 97,6010C вс Barium, Total mg/kg 0.42 1 97,6010C Cadmium, Total 0.61 0.42 11/05/14 16:35 11/07/14 12:52 EPA 3050B вс mg/kg 97,6010C Chromium, Total 20 mg/kg 0.42 1 11/05/14 16:35 11/07/14 12:52 EPA 3050B BC 4.7 2.1 1 11/05/14 16:35 11/07/14 12:52 EPA 3050B 97,6010C вс Lead, Total mg/kg Mercury, Total ND 0.071 1 11/05/14 08:55 11/05/14 16:27 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.1 --1 11/05/14 16:35 11/07/14 12:52 EPA 3050B BC

1

11/05/14 16:35 11/07/14 12:52 EPA 3050B



97,6010C

ВС

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426293

Report Date:

11/10/14

Method Blank Analysis Batch Quality Control

Dilution Date **Date** Analytical **Result Qualifier Factor Prepared Analyzed** Method Analyst **Parameter** Units RL **MDL** MCP Total Metals - Westborough Lab for sample(s): 01-02,04-10 Batch: WG737592-1 Mercury, Total ND mg/kg 0.083 MC 11/05/14 08:55 11/05/14 15:54 97,7471B

Prep Information

Digestion Method: EPA 7471B

Dilution Date **Date** Analytical Method Analyst **Result Qualifier Factor Prepared Analyzed Parameter** Units RL **MDL** MCP Total Metals - Westborough Lab for sample(s): 03 Batch: WG737595-1 Mercury, Total ND mg/kg 0.083 1 11/05/14 08:55 11/05/14 16:59 97,7471B MC

Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - We	stborough Lab for s	ample(s):	01-10	Batch: '	WG737835-1				
Arsenic, Total	ND	mg/kg	0.40		1	11/05/14 16:35	11/07/14 11:37	97,6010C	вс
Barium, Total	ND	mg/kg	0.40		1	11/05/14 16:35	11/07/14 11:37	97,6010C	ВС
Cadmium, Total	ND	mg/kg	0.40		1	11/05/14 16:35	11/07/14 11:37	97,6010C	ВС
Chromium, Total	ND	mg/kg	0.40		1	11/05/14 16:35	11/07/14 11:37	97,6010C	ВС
Lead, Total	ND	mg/kg	2.0		1	11/05/14 16:35	11/07/14 11:37	97,6010C	ВС
Selenium, Total	ND	mg/kg	2.0		1	11/05/14 16:35	11/07/14 11:37	97,6010C	ВС
Silver, Total	ND	mg/kg	0.40		1	11/05/14 16:35	11/07/14 11:37	97,6010C	ВС

Prep Information

Digestion Method: EPA 3050B



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426293

Report Date:

11/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Westborough Lab Ass	ociated sample(s): 01-02	2,04-10	Batch: WG73759	92-2 WG7	37592-3 SRM Lot N	Number: D08	33-540	
Mercury, Total	121		124		75-126	2		30
MCP Total Metals - Westborough Lab Ass	ociated sample(s): 03	Batch: W	/G737595-2 WG	737595-3	SRM Lot Number: D	0083-540		
Mercury, Total	122		123		75-126	1		30
MCP Total Metals - Westborough Lab Ass		0 Batch		WG737835-	3 SRM Lot Numbe			20
Arsenic, Total Barium, Total	106 96		106 96		78-122 82-117	0		30
Cadmium, Total	94		96		82-118	2		30
Chromium, Total	95		97		79-121	2		30
Lead, Total	91		93		81-119	2		30
Selenium, Total	96		96		78-123	0		30
Silver, Total	102		105		74-125	3		30



Matrix Spike Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1426293

Report Date: 11/10/14

arameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD ound	MSD %Recovery Q	Recover ual Limits	•	RPD <u>al</u> Limits
MCP Total Metals - Westboroug	ıh Lab Assoc	iated sampl	e(s): 03 Q0	C Batch ID: W	/G737595-	-4 QC	Sample: L142629	3-03 Client	ID: PE-17	
Mercury, Total	ND	0.153	0.217	142	Q	-	-	75-125	-	35
MCP Total Metals - Westboroug	ıh Lab Assoc	iated sampl	e(s): 01-10	QC Batch ID	: WG7378	35-4	QC Sample: L142	6293-03 Cli	ent ID: PE-17	7
Arsenic, Total	26	10.8	36	93		-	-	75-125	-	35
Barium, Total	57	179	210	85		-	-	75-125	-	35
Cadmium, Total	ND	4.58	3.6	79		-	-	75-125	-	35
Chromium, Total	26	17.9	44	100		-	-	75-125	-	35
Lead, Total	7.3	45.8	42	76		-	-	75-125	-	35
Selenium, Total	ND	10.8	8.8	82		-	-	75-125	-	35
Silver, Total	ND	26.9	25	93		-	-	75-125	-	35

L1426293

Lab Serial Dilution
Analysis
Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Report Date: 11/10/14

Lab Number:

Parameter	Native Sar	mple Serial Dilu	tion Units	% D	Qual	RPD Limits
MCP Total Metals - Westborough Lab	Associated sample(s): 01-10	QC Batch ID: WG737835	-6 QC Sample: I	_1426293-03	Client ID:	PE-17
Arsenic, Total	26	30	mg/kg	15	Q	10
Barium, Total	57	65	mg/kg	14	Q	10
Chromium, Total	26	32	mg/kg	23	Q	10



INORGANICS & MISCELLANEOUS



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-01

Client ID: PE-16

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 14:30

Date Received: 11/03/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	88.7		%	0.100	NA	1	-	11/03/14 22:35	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-02

Client ID: PE-217

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 14:33

Date Received: 11/03/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	88.8		%	0.100	NA	1	-	11/03/14 22:35	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-03

Client ID: PE-17

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 14:34

Date Received: 11/03/14
Field Prep: Not Specified

Analytical Method **Dilution** Date Date Factor Prepared Result Qualifier Units Analyzed RL MDL **Parameter Analyst** General Chemistry - Westborough Lab Solids, Total % 0.100 NA 1 11/03/14 22:35 30,2540G RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-04

Client ID: PE-18

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 14:39

Date Received: 11/03/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - \	Westborough Lab)								
Solids, Total	86.4		%	0.100	NA	1	-	11/03/14 22:35	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-05

Client ID: PE-19

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 14:42

Date Received: 11/03/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	83.1		%	0.100	NA	1	_	11/03/14 22:35	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-06

Client ID: PE-20

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 14:47

Date Received: 11/03/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	89.1		%	0.100	NA	1	-	11/03/14 22:35	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-07

Client ID: PE-21

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 14:51

Date Received: 11/03/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	88.3		%	0.100	NA	1	-	11/03/14 22:35	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-08

Client ID: PE-22

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 14:55

Date Received: 11/03/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - West	borough Lab)								
Solids, Total	88.6		%	0.100	NA	1	-	11/03/14 22:35	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-09

Client ID: PE-23

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 15:02

Date Received: 11/03/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	76.1		%	0.100	NA	1	_	11/03/14 22:35	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426293

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426293-10

Client ID: PE-24

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 11/03/14 15:05

Date Received: 11/03/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	89.2		%	0.100	NA	1	_	11/03/14 22:35	30,2540G	RT



Lab Duplicate Analysis
Batch Quality Control

Lab Number: **Project Name:** HOLY CROSS FIELDHOUSE L1426293

11/10/14 **Project Number:** Not Specified Report Date:

Parameter	Native Sam	ple Dupl	licate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab	Associated sample(s): 01-10	QC Batch ID: Wo	G737147-1 C	QC Sample: L14	26270-01	Client ID:	DUP Sample
Solids, Total	90.4		90.3	%	0		20



Lab Number: L1426293

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/10/14

Sample Receipt and Container Information

Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1426293-01A	Amber 250ml unpreserved	A	N/A	3.2	Υ	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426293-02A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-BB-6010T-10(180)
L1426293-03A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426293-04A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426293-05A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1426293 **Report Date:** 11/10/14

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1426293-06A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-BB-6010T-10(180)
L1426293-07A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426293-08A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426293-09A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180)
L1426293-10A	Amber 250ml unpreserved	A	N/A	3.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426293Project Number:Not SpecifiedReport Date:11/10/14

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

 Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

SRM

- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
 of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426293Project Number:Not SpecifiedReport Date:11/10/14

Data Qualifiers

- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426293Project Number:Not SpecifiedReport Date:11/10/14

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, lodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl. EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mq,Mn,Mo,Ni,K,Se,Aq,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Alpha's Terms and Conditions.

See reverse side

FORM NO: 01-01 (rev. 18-Jan-2010)



ANALYTICAL REPORT

Lab Number: L1426132

Client: Cooperstown Environmental LLC

23 Main Street

Andover, MA 01810-0814

ATTN: Richard Gang
Phone: (978) 470-4755

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/10/14

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1426132 **Report Date:** 11/10/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1426132-01	PE-07	SOIL	WORCESTER, MA	10/30/14 15:16	10/31/14
L1426132-02	PE-08	SOIL	WORCESTER, MA	10/30/14 15:18	10/31/14
L1426132-03	PE-09	SOIL	WORCESTER, MA	10/30/14 15:20	10/31/14
L1426132-04	PE-10	SOIL	WORCESTER, MA	10/30/14 15:22	10/31/14
L1426132-05	CON-SOUTH	SOLID	WORCESTER, MA	10/31/14 08:44	10/31/14
L1426132-06	PE-11	SOIL	WORCESTER, MA	10/31/14 09:43	10/31/14
L1426132-07	ONEIL CONDUIT	SOLID	WORCESTER, MA	10/31/14 09:45	10/31/14
L1426132-08	PE-12	SOIL	WORCESTER, MA	10/31/14 09:59	10/31/14
L1426132-09	PE-13	SOIL	WORCESTER, MA	10/31/14 10:02	10/31/14
L1426132-10	PE-14	SOIL	WORCESTER, MA	10/31/14 11:19	10/31/14
L1426132-11	PE-15	SOIL	WORCESTER, MA	10/31/14 11:22	10/31/14
L1426132-12	CON-NORTH	SOLID	WORCESTER, MA	10/31/14 11:23	10/31/14



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
Α	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	A response to questions G, H and I is required for "Presumptive Certainty" status							
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES						
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO						
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO						

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Metals.

Metals

In reference to question H:

The WG737436-3 LCSD recoveries, associated with L1426132-01 through -12, are outside the acceptance criteria for cadmium (159%) and selenium (141%). Re-analysis of the LCSD yielded an unacceptable recovery for cadmium (159%) and selenium (141%). The LCS recovery was within acceptance criteria for these analytes; therefore, no further action was taken.

The WG737436-2/-3 LCS/LCSD RPDs, associated with L1426132-01 through -12, are above the acceptance criteria for cadmium (47%) and selenium (38%).

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Wildle M. Unawa Michelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

Date: 11/10/14



ORGANICS



PCBS



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: Date Collected: 10/30/14 15:16

Client ID: PE-07 Date Received: 10/31/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: 67,80834

Analytical Method: 97,8082A Extraction Date: 11/04/14 17:02
Analytical Date: 11/07/14 18:55 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/06/14

Percent Solids: 86% Cleanup Method: EPA 3660B Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column		
MCP Polychlorinated Biphenyls - Westborough Lab									
Aroclor 1016	ND		ug/kg	38.4		1	Α		
Aroclor 1221	ND		ug/kg	38.4		1	Α		
Aroclor 1232	ND		ug/kg	38.4		1	Α		
Aroclor 1242	ND		ug/kg	38.4		1	А		
Aroclor 1248	ND		ug/kg	38.4		1	Α		
Aroclor 1254	ND		ug/kg	38.4		1	Α		
Aroclor 1260	ND		ug/kg	38.4		1	Α		
Aroclor 1262	ND		ug/kg	38.4		1	Α		
Aroclor 1268	ND		ug/kg	38.4		1	Α		
PCBs, Total	ND		ug/kg	38.4		1	Α		

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	А
Decachlorobiphenyl	44		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	73		30-150	В
Decachlorobiphenyl	51		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: Date Collected: 10/30/14 15:18

Client ID: PE-08 Date Received: 10/31/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 17:02
Analytical Date: 11/07/14 19:07 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 75% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls	s - Westborough Lab						
Aroclor 1016	ND		ug/kg	44.1		1	Α
Aroclor 1221	ND		ug/kg	44.1		1	Α
Aroclor 1232	ND		ug/kg	44.1		1	Α
Aroclor 1242	ND		ug/kg	44.1		1	Α
Aroclor 1248	ND		ug/kg	44.1		1	Α
Aroclor 1254	ND		ug/kg	44.1		1	Α
Aroclor 1260	ND		ug/kg	44.1		1	Α
Aroclor 1262	ND		ug/kg	44.1		1	Α
Aroclor 1268	ND		ug/kg	44.1		1	Α
PCBs, Total	ND		ug/kg	44.1		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	42		30-150	A
Decachlorobiphenyl	30		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	51		30-150	В
Decachlorobiphenyl	35		30-150	В



11/06/14

Cleanup Date:

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-03 Date Collected: 10/30/14 15:20

Client ID: PE-09 Date Received: 10/31/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 17:02

Analytical Date: 11/07/14 19:19 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 86% Cleanup Method: EPA 3660B

Qualifier MDL **Parameter** Result Units RL**Dilution Factor** Column MCP Polychlorinated Biphenyls - Westborough Lab ND 38.0 1 Aroclor 1016 ug/kg Α ND Aroclor 1221 ug/kg 38.0 1 Α Aroclor 1232 ND ug/kg 38.0 1 Α --Aroclor 1242 ND 38.0 1 Α ug/kg --1 Aroclor 1248 ND ug/kg 38.0 Α 1 ND 38.0 Α Aroclor 1254 ug/kg --Aroclor 1260 ND ug/kg 38.0 1 Α Aroclor 1262 ND ug/kg 38.0 1 Α Aroclor 1268 ND 38.0 1 Α ug/kg --PCBs, Total ND 38.0 1 Α ug/kg --

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria	Column			
2,4,5,6-Tetrachloro-m-xylene	63		30-150	Α			
Decachlorobiphenyl	45		30-150	Α			
2,4,5,6-Tetrachloro-m-xylene	77		30-150	В			
Decachlorobiphenyl	53		30-150	В			



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-04 Date Collected: 10/30/14 15:22

Client ID: PE-10 Date Received: 10/31/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 17:02
Analytical Date: 11/07/14 19:32 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 88% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyl	s - Westborough Lab						
Aroclor 1016	ND		ug/kg	37.1		1	Α
Aroclor 1221	ND		ug/kg	37.1		1	Α
Aroclor 1232	ND		ug/kg	37.1		1	Α
Aroclor 1242	ND		ug/kg	37.1		1	Α
Aroclor 1248	ND		ug/kg	37.1		1	Α
Aroclor 1254	ND		ug/kg	37.1		1	Α
Aroclor 1260	ND		ug/kg	37.1		1	Α
Aroclor 1262	ND		ug/kg	37.1		1	Α
Aroclor 1268	ND		ug/kg	37.1		1	Α
PCBs, Total	ND		ug/kg	37.1		1	Α

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria	Column			
2,4,5,6-Tetrachloro-m-xylene	65		30-150	Α			
Decachlorobiphenyl	47		30-150	Α			
2,4,5,6-Tetrachloro-m-xylene	79		30-150	В			
Decachlorobiphenyl	55		30-150	В			



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

 Lab ID:
 L1426132-05
 Date Collected:
 10/31/14 08:44

 Client ID:
 CON-SOUTH
 Date Received:
 10/31/14

Sample Location: Field Prep: WORCESTER, MA Not Specified Extraction Method: EPA 3540C Matrix: Solid Analytical Method: 97,8082A **Extraction Date:** 11/04/14 21:00 Analytical Date: 11/07/14 12:19 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 96% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Wes	tborough Lab						
A 1 4040	NB		//	24.2		,	
Aroclor 1016	ND		ug/kg	61.0		1	Α
Aroclor 1221	ND		ug/kg	61.0		1	Α
Aroclor 1232	ND		ug/kg	61.0		1	Α
Aroclor 1242	ND		ug/kg	61.0		1	Α
Aroclor 1248	ND		ug/kg	40.7		1	Α
Aroclor 1254	ND		ug/kg	61.0		1	В
Aroclor 1260	ND		ug/kg	40.7		1	Α
Aroclor 1262	ND		ug/kg	20.3		1	Α
Aroclor 1268	ND		ug/kg	20.3		1	Α
PCBs, Total	ND		ug/kg	20.3		1	Α

	Acceptance							
Surrogate	% Recovery	Qualifier	Criteria	Column				
2,4,5,6-Tetrachloro-m-xylene	74		30-150	Α				
Decachlorobiphenyl	103		30-150	Α				
2,4,5,6-Tetrachloro-m-xylene	75		30-150	В				
Decachlorobiphenyl	111		30-150	В				



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: Date Collected: 10/31/14 09:43

Client ID: PE-11 Date Received: 10/31/14 Sample Location: WORCESTER, MA Field Prep: Not Speci

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/04/14 19:00

Analytical Date: 11/07/14 19:44 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 89% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Wes	tborough Lab						
Arcelor 1016	ND		ua/ka	26.7		1	۸
Aroclor 1016	עאו		ug/kg	36.7		<u> </u>	Α
Aroclor 1221	ND		ug/kg	36.7		1	Α
Aroclor 1232	ND		ug/kg	36.7		1	Α
Aroclor 1242	ND		ug/kg	36.7		1	Α
Aroclor 1248	ND		ug/kg	36.7		1	Α
Aroclor 1254	ND		ug/kg	36.7		1	Α
Aroclor 1260	ND		ug/kg	36.7		1	Α
Aroclor 1262	ND		ug/kg	36.7		1	Α
Aroclor 1268	ND		ug/kg	36.7		1	Α
PCBs, Total	ND		ug/kg	36.7		1	Α

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	Α
Decachlorobiphenyl	45		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	71		30-150	В
Decachlorobiphenyl	50		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

 Lab ID:
 L1426132-07
 Date Collected:
 10/31/14 09:45

 Client ID:
 ONEIL CONDUIT
 Date Received:
 10/31/14

Sample Location: Field Prep: WORCESTER, MA Not Specified Extraction Method: EPA 3540C Matrix: Solid Analytical Method: 97,8082A **Extraction Date:** 11/04/14 21:00 Analytical Date: 11/07/14 12:35 Cleanup Method: EPA 3665A

Analyst: JT Cleanup Date: 11/06/14

Percent Solids: 90% Cleanup Method: EPA 3660B

Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls	s - Westborough Lab						
			,,				
Aroclor 1016	ND		ug/kg	62.7		1	Α
Aroclor 1221	ND		ug/kg	62.7		1	Α
Aroclor 1232	ND		ug/kg	62.7		1	Α
Aroclor 1242	ND		ug/kg	62.7		1	Α
Aroclor 1248	ND		ug/kg	41.8		1	Α
Aroclor 1254	ND		ug/kg	62.7		1	В
Aroclor 1260	ND		ug/kg	41.8		1	Α
Aroclor 1262	ND		ug/kg	20.9		1	Α
Aroclor 1268	ND		ug/kg	20.9		1	А
PCBs, Total	ND		ug/kg	20.9		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	44		30-150	A
Decachlorobiphenyl	56		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	47		30-150	В
Decachlorobiphenyl	61		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: Date Collected: 10/31/14 09:59

Client ID: PE-12 Date Received: 10/31/14 Sample Location: WORCESTER, MA Field Prep: Not Speci

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/04/14 19:00

Analytical Date: 11/07/14 19:57 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 89% Cleanup Method: EPA 3660B

Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - We	stborough Lab						
Aroclor 1016	ND		ug/kg	36.4		1	Α
Aroclor 1221	ND		ug/kg	36.4		1	Α
Aroclor 1232	ND		ug/kg	36.4		1	Α
Aroclor 1242	ND		ug/kg	36.4		1	Α
Aroclor 1248	ND		ug/kg	36.4		1	Α
Aroclor 1254	ND		ug/kg	36.4		1	Α
Aroclor 1260	ND		ug/kg	36.4		1	А
Aroclor 1262	ND		ug/kg	36.4		1	Α
Aroclor 1268	ND		ug/kg	36.4		1	Α
PCBs, Total	ND		ug/kg	36.4		1	Α

	Acceptance							
Surrogate	% Recovery	Qualifier	Criteria	Column				
2,4,5,6-Tetrachloro-m-xylene	69		30-150	Α				
Decachlorobiphenyl	52		30-150	Α				
2,4,5,6-Tetrachloro-m-xylene	82		30-150	В				
Decachlorobiphenyl	57		30-150	В				



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: Date Collected: 10/31/14 10:02

Client ID: PE-13 Date Received: 10/31/14
Sample Location: WORCESTER, MA Field Prep: Not Speci

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/04/14 19:00

Analytical Date: 11/07/14 20:09 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 90% Cleanup Method: EPA 3660B

Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column		
MCP Polychlorinated Biphenyls - Westborough Lab									
Aroclor 1016	ND		ug/kg	36.3		1	А		
Aroclor 1221	ND		ug/kg	36.3		1	Α		
Aroclor 1232	ND		ug/kg	36.3		1	Α		
Aroclor 1242	ND		ug/kg	36.3		1	Α		
Aroclor 1248	ND		ug/kg	36.3		1	Α		
Aroclor 1254	ND		ug/kg	36.3		1	Α		
Aroclor 1260	ND		ug/kg	36.3		1	Α		
Aroclor 1262	ND		ug/kg	36.3		1	Α		
Aroclor 1268	ND		ug/kg	36.3		1	Α		
PCBs, Total	ND		ug/kg	36.3		1	Α		

2	0/ D	0	Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	56		30-150	Α
Decachlorobiphenyl	44		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	67		30-150	В
Decachlorobiphenyl	48		30-150	В



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: Date Collected: 10/31/14 11:19

Client ID: PE-14 Date Received: 10/31/14 Sample Location: WORCESTER, MA Field Prep: Not Specification

Output Description: Date Received: 10/31/14

Output Description: Not Specification: Not Specific

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/04/14 19:00Analytical Date:11/07/14 20:21Cleanup Method:EPA 3665A

Analyst: JT Cleanup Date: 11/06/14
Percent Solids: 90% Cleanup Method: EPA 3660B
Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls -	Westborough Lab						
Aroclor 1016	ND		ug/kg	36.1		1	Α
Aroclor 1221	ND		ug/kg	36.1		1	Α
Aroclor 1232	ND		ug/kg	36.1		1	Α
Aroclor 1242	ND		ug/kg	36.1		1	Α
Aroclor 1248	ND		ug/kg	36.1		1	Α
Aroclor 1254	ND		ug/kg	36.1		1	Α
Aroclor 1260	ND		ug/kg	36.1		1	Α
Aroclor 1262	ND		ug/kg	36.1		1	Α
Aroclor 1268	ND		ug/kg	36.1		1	А
PCBs, Total	ND		ug/kg	36.1		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	Α
Decachlorobiphenyl	51		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	76		30-150	В
Decachlorobiphenyl	55		30-150	В



11/05/14

Cleanup Date:

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: Date Collected: 10/31/14 11:22

Client ID: PE-15 Date Received: 10/31/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 19:00

Analytical Date: 11/06/14 13:46 Cleanup Method: EPA 3665A
Analyst: JT Cleanup Date: 11/05/14
Percent Solids: 90% Cleanup Method: EPA 3660B

Qualifier MDL **Parameter** Result Units RL**Dilution Factor** Column MCP Polychlorinated Biphenyls - Westborough Lab ND 1 Aroclor 1016 ug/kg 36.2 Α ND Aroclor 1221 ug/kg 36.2 1 Α Aroclor 1232 ND ug/kg 36.2 1 Α --Aroclor 1242 ND 36.2 1 Α ug/kg --1 Aroclor 1248 ND ug/kg 36.2 Α 1 ND 36.2 Α Aroclor 1254 ug/kg --Aroclor 1260 ND ug/kg 36.2 1 Α Aroclor 1262 ND ug/kg 36.2 1 Α Aroclor 1268 ND 1 36.2 Α ug/kg --PCBs, Total ND 36.2 1 Α ug/kg --

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		30-150	A
Decachlorobiphenyl	89		30-150	А
2,4,5,6-Tetrachloro-m-xylene	92		30-150	В
Decachlorobiphenyl	101		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-12
Client ID: CON-NORTH
Sample Location: WORCESTER, MA

Matrix: Solid
Analytical Method: 97,8082A
Analytical Date: 11/07/14 13:09

Analyst: JT Percent Solids: 93%

Date Collected: 10/31/14 11:23 Date Received: 10/31/14 Field Prep: Not Specified Extraction Method: EPA 3540C **Extraction Date:** 11/04/14 21:00 Cleanup Method: EPA 3665A Cleanup Date: 11/06/14 Cleanup Method: EPA 3660B Cleanup Date: 11/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Wes	tborough Lab						
Aroclor 1016	ND		ug/kg	61.8		1	Α
Aroclor 1221	ND		ug/kg	61.8		1	Α
Aroclor 1232	ND		ug/kg	61.8		1	Α
Aroclor 1242	ND		ug/kg	61.8		1	А
Aroclor 1248	ND		ug/kg	41.2		1	Α
Aroclor 1254	ND		ug/kg	61.8		1	В
Aroclor 1260	ND		ug/kg	41.2		1	Α
Aroclor 1262	ND		ug/kg	20.6		1	Α
Aroclor 1268	ND		ug/kg	20.6		1	Α
PCBs, Total	ND		ug/kg	20.6		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	55		30-150	A
Decachlorobiphenyl	85		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	55		30-150	В
Decachlorobiphenyl	86		30-150	В



Project Name: HOLY CROSS FIELDHOUSE

Not Specified Report Date: 11/10/14

Method Blank Analys

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A Analytical Date: 11/06/14 13:59

Analyst: JT

Project Number:

Extraction Method: EPA 3540C
Extraction Date: 11/04/14 17:02
Cleanup Method: EPA 3665A
Cleanup Date: 11/05/14
Cleanup Date: EPA 3660B
Cleanup Date: 11/05/14

L1426132

Lab Number:

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls WG737487-1	- Westborough	Lab for sar	mple(s):	01-04,06,08-11	Batch:	
Aroclor 1016	ND		ug/kg	33.1		Α
Aroclor 1221	ND		ug/kg	33.1		А
Aroclor 1232	ND		ug/kg	33.1		А
Aroclor 1242	ND		ug/kg	33.1		Α
Aroclor 1248	ND		ug/kg	33.1		Α
Aroclor 1254	ND		ug/kg	33.1		Α
Aroclor 1260	ND		ug/kg	33.1		Α
Aroclor 1262	ND		ug/kg	33.1		Α
Aroclor 1268	ND		ug/kg	33.1		Α
PCBs, Total	ND		ug/kg	33.1		Α

			Acceptance	;
Surrogate	%Recovery	Qualifier	Criteria	Column
				_
2,4,5,6-Tetrachloro-m-xylene	85		30-150	Α
Decachlorobiphenyl	83		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	84		30-150	В
Decachlorobiphenyl	91		30-150	В



Project Name: HOLY CROSS FIELDHOUSE

Not Specified Report Date: 11/10/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A Analytical Date: 97,8082A 11/07/14 13:25

Analyst: JT

Project Number:

Extraction Method: EPA 3540C
Extraction Date: 11/04/14 21:00
Cleanup Method: EPA 3665A
Cleanup Date: 11/06/14
Cleanup Date: EPA 3660B
Cleanup Date: 11/06/14

L1426132

Lab Number:

Parameter	Result	Qualifier	Units	RL	N	IDL	Column
MCP Polychlorinated Biphenyls -	Westborough	Lab for sai	mple(s):	05,07,12	Batch:	WG7	37529-1
Aroclor 1016	ND		ug/kg	58.8			Α
Aroclor 1221	ND		ug/kg	58.8			А
Aroclor 1232	ND		ug/kg	58.8			А
Aroclor 1242	ND		ug/kg	58.8			А
Aroclor 1248	ND		ug/kg	39.2			А
Aroclor 1260	ND		ug/kg	39.2			А
Aroclor 1262	ND		ug/kg	19.6			Α
Aroclor 1268	ND		ug/kg	19.6			А
PCBs, Total	ND		ug/kg	19.6			Α
Aroclor 1254	ND		ug/kg	58.8			В

		4	Acceptance	;
Surrogate	%Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	Α
Decachlorobiphenyl	81		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	78		30-150	В
Decachlorobiphenyl	92		30-150	В



Matrix Spike Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426132

11/10/14

Report Date:

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	, RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyl Sample	s - Westboro	ugh Lab Asso	ociated samp	ole(s): 01-04,06,0	08-11	QC Batch II	D: WG737487-4	4 QC	Sample: L	1426293		lient ID: I	
Aroclor 1016	ND	234	139	59		-	-		40-140	-		30	Α
Aroclor 1260	ND	234	279	57		-	-		40-140	-		30	Α

	MS	6	M	SD	Acceptance	
Surrogate	% Recovery	Qualifier	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	54				30-150	Α
Decachlorobiphenyl	41				30-150	Α
2,4,5,6-Tetrachloro-m-xylene	65				30-150	В
Decachlorobiphenyl	48				30-150	В



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426132

Report Date:

11/10/14

	LCS		LCSD		%Recovery			RPD	
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits	Column
MCP Polychlorinated Biphenyls - Westbo	orough Lab Associate	ed sample(s):	01-04,06,08-11	Batch:	WG737487-2	WG737487-3			
Aroclor 1016	89		92		40-140	3		30	Α
Aroclor 1260	90		90		40-140	0		30	Α

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		95		30-150	Α
Decachlorobiphenyl	91		94		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	90		94		30-150	В
Decachlorobiphenyl	99		101		30-150	В



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426132

Report Date:

11/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westbor	rough Lab Associate	ed sample(s):	05,07,12 Bato	h: WG73	7529-2 WG737529	9-3			
Aroclor 1016	71		67		40-140	6		30	Α
Aroclor 1260	77		74		40-140	4		30	А

	LCS		LCSD		Acceptance	Column
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	
2,4,5,6-Tetrachloro-m-xylene	77		71		30-150	А
Decachlorobiphenyl	87		83		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	84		75		30-150	В
Decachlorobiphenyl	97		91		30-150	В



METALS



Project Name: Lab Number: HOLY CROSS FIELDHOUSE L1426132

Project Number: Not Specified **Report Date:** 11/10/14

SAMPLE RESULTS

Date Collected: Lab ID: L1426132-01 10/30/14 15:16

Client ID: PE-07 Date Received: 10/31/14 Field Prep: Not Specified

WORCESTER, MA Sample Location: Matrix: Soil

86% Percent Solids:

Percent Solids:	86%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	Mostboro	augh Lah									
IVICE TOTAL IVICIAIS -	Mesipord	Jugii Lab									
Arsenic, Total	20		mg/kg	0.45		1	11/04/14 15:38	3 11/06/14 18:41	EPA 3050B	97,6010C	MG
Barium, Total	37		mg/kg	0.45		1	11/04/14 15:38	3 11/06/14 18:41	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.45		1	11/04/14 15:38	3 11/06/14 18:41	EPA 3050B	97,6010C	MG
Chromium, Total	21		mg/kg	0.45		1	11/04/14 15:38	3 11/06/14 18:41	EPA 3050B	97,6010C	MG
Lead, Total	7.2		mg/kg	2.3		1	11/04/14 15:38	3 11/06/14 18:41	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.092		1	11/04/14 08:30) 11/04/14 13:32	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.3		1	11/04/14 15:38	3 11/06/14 18:41	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.45		1	11/04/14 15:38	3 11/06/14 18:41	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-02 Date Collected: 10/30/14 15:18

Client ID: PE-08 Date Received: 10/31/14

Sample Location: WORCESTER, MA Field Prep: Not Specified Matrix: Soil

Percent Solids: 75%

Percent Solids:	75%	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Parameter	Result										
MCP Total Metals -	Westbord	ough Lab									
Arsenic, Total	18		mg/kg	0.53		1	11/04/14 15:38	3 11/06/14 19:19	EPA 3050B	97,6010C	MG
Barium, Total	51		mg/kg	0.53		1	11/04/14 15:38	3 11/06/14 19:19	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.53		1	11/04/14 15:38	3 11/06/14 19:19	EPA 3050B	97,6010C	MG
Chromium, Total	26		mg/kg	0.53		1	11/04/14 15:38	3 11/06/14 19:19	EPA 3050B	97,6010C	MG
Lead, Total	10		mg/kg	2.6		1	11/04/14 15:38	3 11/06/14 19:19	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.10		1	11/04/14 08:30) 11/04/14 13:33	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.6		1	11/04/14 15:38	3 11/06/14 19:19	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.53		1	11/04/14 15:38	3 11/06/14 19:19	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-03 Date Collected: 10/30/14 15:20

Client ID: PE-09 Date Received: 10/31/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil
Percent Solids: 86%

ND

mg/kg

0.44

Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 19 mg/kg 0.44 1 11/04/14 15:38 11/06/14 19:23 EPA 3050B 97,6010C MG 48 1 97,6010C MG Barium, Total mg/kg 0.44 11/04/14 15:38 11/06/14 19:23 EPA 3050B ND 1 97,6010C 0.44 11/04/14 15:38 11/06/14 19:23 EPA 3050B MG Cadmium, Total mg/kg 97,6010C Chromium, Total 20 mg/kg 0.44 1 11/04/14 15:38 11/06/14 19:23 EPA 3050B MG 6.4 2.2 1 11/04/14 15:38 11/06/14 19:23 EPA 3050B 97,6010C MG Lead, Total mg/kg Mercury, Total ND 0.081 1 11/04/14 08:30 11/04/14 13:35 EPA 7471B 97,7471B МС mg/kg --97,6010C Selenium, Total ND mg/kg 2.2 --1 11/04/14 15:38 11/06/14 19:23 EPA 3050B MG

1

11/04/14 15:38 11/06/14 19:23 EPA 3050B



97,6010C

MG

Silver, Total

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-04 Date Collected: 10/30/14 15:22

Client ID: PE-10 Date Received: 10/31/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil
Percent Solids: 88%

Percent Solids: Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 24 mg/kg 0.45 1 11/04/14 15:38 11/06/14 19:27 EPA 3050B 97,6010C MG 52 1 97,6010C MG Barium, Total mg/kg 0.45 11/04/14 15:38 11/06/14 19:27 EPA 3050B ND 1 97,6010C 0.45 11/04/14 15:38 11/06/14 19:27 EPA 3050B MG Cadmium, Total mg/kg 97,6010C Chromium, Total 25 mg/kg 0.45 1 11/04/14 15:38 11/06/14 19:27 EPA 3050B MG 7.7 2.2 1 11/04/14 15:38 11/06/14 19:27 EPA 3050B 97,6010C MG Lead, Total mg/kg Mercury, Total ND 0.074 1 11/04/14 08:30 11/04/14 13:41 EPA 7471B 97,7471B МС mg/kg --97,6010C Selenium, Total ND mg/kg 2.2 --1 11/04/14 15:38 11/06/14 19:27 EPA 3050B MG Silver, Total ND mg/kg 0.45 1 11/04/14 15:38 11/06/14 19:27 EPA 3050B 97,6010C MG



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

 Lab ID:
 L1426132-05
 Date Collected:
 10/31/14 08:44

 Client ID:
 CON-SOUTH
 Date Received:
 10/31/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 96%

r ercent oolids.	3070					Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	
Parameter	Result	Qualifier	Units	RL	MDL	1 40101	Терагеа	Analyzeu	Metriou		Analyst
MCP Total Metals -	Westboro	ough Lab									
Arsenic, Total	8.4		mg/kg	0.41		1	11/04/14 15:38	11/06/14 19:30	EPA 3050B	97,6010C	MG
Barium, Total	23		mg/kg	0.41		1	11/04/14 15:38	11/06/14 19:30	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.41		1	11/04/14 15:38	11/06/14 19:30	EPA 3050B	97,6010C	MG
Chromium, Total	12		mg/kg	0.41		1	11/04/14 15:38	11/06/14 19:30	EPA 3050B	97,6010C	MG
Lead, Total	8.3		mg/kg	2.0		1	11/04/14 15:38	11/06/14 19:30	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.086		1	11/04/14 08:30	11/04/14 13:43	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.0		1	11/04/14 15:38	11/06/14 19:30	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.41		1	11/04/14 15:38	11/06/14 19:30	EPA 3050B	97,6010C	MG



10/31/14 09:43

Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-06 Date Collected:

Client ID: Date Received: 10/31/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil
Percent Solids: 89%

						Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	Westboro	ough Lab									
Arsenic, Total	25		mg/kg	0.44		1	11/04/14 15:38	11/06/14 19:50	EPA 3050B	97,6010C	MG
Barium, Total	47		mg/kg	0.44		1	11/04/14 15:38	11/06/14 19:50	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.44		1	11/04/14 15:38	11/06/14 19:50	EPA 3050B	97,6010C	MG
Chromium, Total	24		mg/kg	0.44		1	11/04/14 15:38	11/06/14 19:50	EPA 3050B	97,6010C	MG
Lead, Total	6.3		mg/kg	2.2		1	11/04/14 15:38	11/06/14 19:50	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.074		1	11/04/14 08:30	11/04/14 13:45	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.2		1	11/04/14 15:38	11/06/14 19:50	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.44		1	11/04/14 15:38	11/06/14 19:50	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

 Lab ID:
 L1426132-07
 Date Collected:
 10/31/14 09:45

 Client ID:
 ONEIL CONDUIT
 Date Received:
 10/31/14

Client ID: ONEIL CONDUIT Date Received: 10/31/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid

Percent Solids: 90% **Dilution** Date Date Prep **Analytical** Method Factor **Prepared** Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 11 mg/kg 0.43 1 11/04/14 15:38 11/06/14 19:54 EPA 3050B 97,6010C MG 43 1 97,6010C MG Barium, Total mg/kg 0.43 11/04/14 15:38 11/06/14 19:54 EPA 3050B ND 1 97,6010C Cadmium, Total 0.43 MG mg/kg 11/04/14 15:38 11/06/14 19:54 EPA 3050B 97,6010C Chromium, Total 15 mg/kg 0.43 1 11/04/14 15:38 11/06/14 19:54 EPA 3050B MG 3.8 2.1 1 11/04/14 15:38 11/06/14 19:54 EPA 3050B 97,6010C MG Lead, Total mg/kg Mercury, Total ND 0.078 1 11/04/14 08:30 11/04/14 12:16 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.1 --1 11/04/14 15:38 11/06/14 19:54 EPA 3050B MG Silver, Total ND mg/kg 0.43 1 11/04/14 15:38 11/06/14 19:54 EPA 3050B 97,6010C MG



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-08 Date Collected: 10/31/14 09:59

Client ID: PE-12 Date Received: 10/31/14

Sample Location: WORCESTER, MA Field Prep: Not Specified Matrix: Soil

Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals -	Westbord	ough Lab									
Arsenic, Total	31		mg/kg	0.44		1	11/04/14 15:38	11/06/14 19:58	EPA 3050B	97,6010C	MG
Barium, Total	34		mg/kg	0.44		1	11/04/14 15:38	11/06/14 19:58	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.44		1	11/04/14 15:38	11/06/14 19:58	EPA 3050B	97,6010C	MG
Chromium, Total	19		mg/kg	0.44		1	11/04/14 15:38	11/06/14 19:58	EPA 3050B	97,6010C	MG
Lead, Total	7.7		mg/kg	2.2		1	11/04/14 15:38	11/06/14 19:58	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.073		1	11/04/14 08:30	11/04/14 12:18	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.2		1	11/04/14 15:38	11/06/14 19:58	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.44		1	11/04/14 15:38	11/06/14 19:58	EPA 3050B	97,6010C	MG



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-09 Date Collected: 10/31/14 10:02

Client ID: PE-13 Date Received: 10/31/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil
Percent Solids: 90%

Percent Solids:	90%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	Mosthor	ough Lah									
IVICE TOTAL IVICIAIS -	Mesiboli	ough Lab									
Arsenic, Total	37		mg/kg	0.43		1	11/04/14 15:38	3 11/06/14 20:01	EPA 3050B	97,6010C	MG
Barium, Total	41		mg/kg	0.43		1	11/04/14 15:38	3 11/06/14 20:01	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.43		1	11/04/14 15:38	3 11/06/14 20:01	EPA 3050B	97,6010C	MG
Chromium, Total	24		mg/kg	0.43		1	11/04/14 15:38	3 11/06/14 20:01	EPA 3050B	97,6010C	MG
Lead, Total	8.6		mg/kg	2.1		1	11/04/14 15:38	3 11/06/14 20:01	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.091		1	11/04/14 08:30) 11/04/14 12:20	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.1		1	11/04/14 15:38	3 11/06/14 20:01	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.43		1	11/04/14 15:38	3 11/06/14 20:01	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: Date Collected: 10/31/14 11:19

Client ID: PE-14 Date Received: 10/31/14

Sample Location: WORCESTER, MA Field Prep: Not Specified Matrix: Soil

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals -	Westboro	ough Lab									
Arsenic, Total	25		mg/kg	0.43		1	11/04/14 15:38	11/06/14 20:05	EPA 3050B	97,6010C	MG
Barium, Total	52		mg/kg	0.43		1	11/04/14 15:38	11/06/14 20:05	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.43		1	11/04/14 15:38	11/06/14 20:05	EPA 3050B	97,6010C	MG
Chromium, Total	27		mg/kg	0.43		1	11/04/14 15:38	11/06/14 20:05	EPA 3050B	97,6010C	MG
Lead, Total	6.7		mg/kg	2.2		1	11/04/14 15:38	11/06/14 20:05	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.074		1	11/04/14 08:30	11/04/14 14:19	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.2		1	11/04/14 15:38	11/06/14 20:05	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.43		1	11/04/14 15:38	11/06/14 20:05	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-11 Date Collected: 10/31/14 11:22

Client ID: PE-15 Date Received: 10/31/14

Sample Location: WORCESTER, MA Field Prep: Not Specified Matrix: Soil

Percent Solids: 90%

Parameter Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals -	- Westbord	ough Lab									
Arsenic, Total	18		mg/kg	0.43		1	11/04/14 15:38	11/06/14 20:09	EPA 3050B	97,6010C	MG
Barium, Total	37		mg/kg	0.43		1	11/04/14 15:38	11/06/14 20:09	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.43		1	11/04/14 15:38	11/06/14 20:09	EPA 3050B	97,6010C	MG
Chromium, Total	20		mg/kg	0.43		1	11/04/14 15:38	11/06/14 20:09	EPA 3050B	97,6010C	MG
Lead, Total	5.2		mg/kg	2.1		1	11/04/14 15:38	11/06/14 20:09	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.071		1	11/04/14 08:30	11/04/14 14:21	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.1		1	11/04/14 15:38	11/06/14 20:09	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.43		1	11/04/14 15:38	11/06/14 20:09	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-12 Date Collected: 10/31/14 11:23

Client ID: CON-NORTH Date Received: 10/31/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid
Percent Solids: 93%

Dilution Date Date Prep **Analytical** Method Factor **Prepared** Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 9.3 mg/kg 0.42 1 11/04/14 15:38 11/06/14 20:13 EPA 3050B 97,6010C MG 35 1 97,6010C MG Barium, Total mg/kg 0.42 11/04/14 15:38 11/06/14 20:13 EPA 3050B ND 1 97,6010C Cadmium, Total 0.42 11/04/14 15:38 11/06/14 20:13 EPA 3050B MG mg/kg 97,6010C Chromium, Total 13 mg/kg 0.42 1 11/04/14 15:38 11/06/14 20:13 EPA 3050B MG 2.9 2.1 1 11/04/14 15:38 11/06/14 20:13 EPA 3050B 97,6010C MG Lead, Total mg/kg Mercury, Total ND 0.074 1 11/04/14 08:30 11/04/14 14:27 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.1 --1 11/04/14 15:38 11/06/14 20:13 EPA 3050B MG Silver, Total ND mg/kg 0.42 1 11/04/14 15:38 11/06/14 20:13 EPA 3050B 97,6010C MG



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426132

Report Date:

11/10/14

Method Blank Analysis Batch Quality Control

Parameter	Result Q	ualifier	Units	RL	MDL	Dilution Factor	Date Prepared		Analytical Method	
MCP Total Metals - \	Westborough L	ab for sa	ample(s):	07-09	Batch:	WG736621-1				
Mercury, Total	ND		mg/kg	0.083		1	11/04/14 08:30	11/04/14 12:01	97,7471B	MC

Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qualifier	· Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals -	Westborough Lab for	sample(s): 01	I-06	Batch: \	WG736622-1				
Mercury, Total	ND	mg/kg	0.083		1	11/04/14 08:30	11/04/14 12:50	97,7471B	MC

Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qualific	er Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals -	Westborough Lab fo	r sample(s):	10-12	Batch:	WG737189-1				
Mercury, Total	ND	mg/kg	0.083		1	11/04/14 08:30	11/04/14 14:13	97,7471B	MC

Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - W	estborough Lab for sa	imple(s):	01-12	Batch: \	WG737436-	1			
Arsenic, Total	ND	mg/kg	0.40		1	11/04/14 15:38	11/06/14 18:52	97,6010C	MG
Barium, Total	ND	mg/kg	0.40		1	11/04/14 15:38	11/06/14 18:52	97,6010C	MG
Cadmium, Total	ND	mg/kg	0.40		1	11/04/14 15:38	11/06/14 18:52	97,6010C	MG
Chromium, Total	ND	mg/kg	0.40		1	11/04/14 15:38	11/06/14 18:52	97,6010C	MG
Lead, Total	ND	mg/kg	2.0		1	11/04/14 15:38	11/06/14 18:52	97,6010C	MG
Selenium, Total	ND	mg/kg	2.0		1	11/04/14 15:38	11/06/14 18:52	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1426132

Project Number: Not Specified Report Date: 11/10/14

Method Blank Analysis Batch Quality Control

Silver, Total ND mg/kg 0.40 -- 1 11/04/14 15:38 11/06/14 18:52 97,6010C MG

Prep Information

Digestion Method: EPA 3050B



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1426132

Report Date:

11/10/14

Parameter	LCS %Recovery Q	LCSD tual %Recovery		%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Westborough Lab	Associated sample(s): 07-09	Batch: WG736621-2	WG736621-3	SRM Lot Number	: D083-540		
Mercury, Total	122	117		75-126	4		30
MCP Total Metals - Westborough Lab	Associated sample(s): 01-06	Batch: WG736622-2	WG736622-3	SRM Lot Number	: D083-540		
Mercury, Total	118	117		75-126	1		30
MCP Total Metals - Westborough Lab	Associated sample(s): 10-12	Batch: WG737189-2	WG737189-3	SRM Lot Number	: D083-540		
Mercury, Total	110	118		75-126	7		30
MCP Total Metals - Westborough Lab	Associated sample(s): 01-12	Batch: WG737436-2	WG737436-3	SRM Lot Number	: D083-540		
Arsenic, Total	98	106		78-122	8		30
Barium, Total	84	90		82-117	7		30
Cadmium, Total	98	159	Q	82-118	47	Q	30
Chromium, Total	93	98		79-121	5		30
Lead, Total	91	94		81-119	3		30
Selenium, Total	96	141	Q	78-123	38	Q	30
Silver, Total	96	99		74-125	3		30



INORGANICS & MISCELLANEOUS



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-01

Client ID: PE-07

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/30/14 15:16

Date Received: 10/31/14
Field Prep: Not Specified

Date Date Analytical

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	estborough Lab)								
Solids, Total	86.4		%	0.100	NA	1	-	10/31/14 21:19	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-02

Client ID: PE-08

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/30/14 15:18

Date Received: 10/31/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	74.9		%	0.100	NA	1	-	10/31/14 21:19	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-03

Client ID: PE-09

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/30/14 15:20

Date Received: 10/31/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - W	Vestborough Lab)								
Solids, Total	86.1		%	0.100	NA	1	-	10/31/14 21:19	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-04

Client ID: PE-10

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/30/14 15:22

Date Received: 10/31/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	88.2		%	0.100	NA	1	-	10/31/14 21:19	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

 Lab ID:
 L1426132-05
 Date Collected:
 10/31/14 08:44

 Client ID:
 CON-SOUTH
 Date Received:
 10/31/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	96.0		%	0.100	NA	1	-	10/31/14 21:19	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-06

Client ID: PE-11

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/31/14 09:43

Date Received: 10/31/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	89.4		%	0.100	NA	1	-	10/31/14 21:19	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-07 Date Collected: 10/31/14 09:45

Client ID: ONEIL CONDUIT Date Received: 10/31/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	90.1		%	0.100	NA	1	-	10/31/14 21:19	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-08

Client ID: PE-12

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/31/14 09:59

Date Received: 10/31/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	89.3		%	0.100	NA	1	-	10/31/14 21:19	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-09

Client ID: PE-13

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/31/14 10:02

Date Received: 10/31/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	89.7		%	0.100	NA	1	-	10/31/14 21:19	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-10

Client ID: PE-14

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/31/14 11:19

Date Received: 10/31/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	89.5		%	0.100	NA	1	-	10/31/14 21:19	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-11

Client ID: PE-15

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/31/14 11:22

Date Received: 10/31/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - '	Westborough Lab)								
Solids, Total	90.4		%	0.100	NA	1	-	10/31/14 21:19	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1426132

Project Number: Not Specified Report Date: 11/10/14

SAMPLE RESULTS

Lab ID: L1426132-12 Date Collected: 10/31/14 11:23

Client ID: CON-NORTH Date Received: 10/31/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Solid

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	92.7		%	0.100	NA	1	-	10/31/14 21:19	30,2540G	RT



Lab Duplicate Analysis
Batch Quality Control

Lab Number: **Project Name:** HOLY CROSS FIELDHOUSE L1426132

11/10/14 **Project Number:** Not Specified Report Date:

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Asso	ciated sample(s): 01-12 QC I	Batch ID: WG736574-1	QC Sample: L	1426045-01	Client ID:	DUP Sample
Solids, Total	90.0	90.1	%	0		20



Lab Number: L1426132

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/10/14

Sample Receipt and Container Information

Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Info	ormation		Temp				
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1426132-01A	Amber 250ml unpreserved	A	N/A	2.6	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1426132-02A	Amber 250ml unpreserved	A	N/A	2.6	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1426132-03A	Amber 250ml unpreserved	A	N/A	2.6	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BB-6010T-10(180),MCP-PB-6010T-10(180)
L1426132-04A	Amber 250ml unpreserved	A	N/A	2.6	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1426132-05A	Amber 250ml unpreserved	A	N/A	2.6	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1426132 **Report Date:** 11/10/14

Container Information Temp											
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)				
L1426132-06A	Amber 250ml unpreserved	A	N/A	2.6	Υ	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)				
L1426132-07A	Amber 250ml unpreserved	A	N/A	2.6	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)				
L1426132-08A	Amber 250ml unpreserved	A	N/A	2.6	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)				
L1426132-09A	Amber 250ml unpreserved	A	N/A	2.6	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)				
L1426132-10A	Amber 250ml unpreserved	A	N/A	2.6	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)				
L1426132-11A	Amber 250ml unpreserved	A	N/A	2.6	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)				



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1426132 **Report Date:** 11/10/14

Container Info	rmation		Temp							
Container ID	Container Type	Cooler	рН	deg Ċ	Pres	Seal	Analysis(*)			
L1426132-12A	Amber 250ml unpreserved	A	N/A	2.6	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082LL-CNCRT(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)			

Container Comments

L1426132-01A

L1426132-02A

L1426132-03A

L1426132-04A

L1426132-05A

L1426132-06A

L1426132-07A

L1426132-08A

L1426132-09A

L1426132-10A

L1426132-11A

L1426132-12A



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426132Project Number:Not SpecifiedReport Date:11/10/14

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

 Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

SRM

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
 of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426132Project Number:Not SpecifiedReport Date:11/10/14

Data Qualifiers

- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1426132Project Number:Not SpecifiedReport Date:11/10/14

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, lodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl. EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene,

Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mq,Mn,Mo,Ni,K,Se,Aq,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

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Page 63 of 63



ANALYTICAL REPORT

Lab Number: L1425946

Client: Cooperstown Environmental LLC

23 Main Street

Andover, MA 01810-0814

ATTN: Richard Gang Phone: (978) 470-4755

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/07/14

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1425946 **Report Date:** 11/07/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1425946-01	PE-01	SOIL	WORCESTER, MA	10/29/14 15:51	10/30/14
L1425946-02	PE-02	SOIL	WORCESTER, MA	10/29/14 17:12	10/30/14
L1425946-03	PE-03	SOIL	WORCESTER, MA	10/29/14 17:13	10/30/14
L1425946-04	PE-06	SOIL	WORCESTER, MA	10/30/14 10:57	10/30/14
L1425946-05	PE-05	SOIL	WORCESTER, MA	10/30/14 11:56	10/30/14
L1425946-06	PE-04	SOIL	WORCESTER, MA	10/29/14 11:57	10/30/14



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A re	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
ı	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Metals.

Metals

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Custen Walker Cristin Walker

Authorized Signature:

Title: Technical Director/Representative

ALPHA

Date: 11/07/14

ORGANICS



PCBS



11/05/14

Cleanup Date:

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: Date Collected: 10/29/14 15:51

Client ID: PE-01 Date Received: 10/30/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C

Analytical Method: 97,8082A Extraction Date: 11/04/14 04:24

Analytical Date: 11/05/14 13:22 Cleanup Method: EPA 3665A
Analyst: TQ Cleanup Date: 11/05/14
Percent Solids: 85% Cleanup Method: EPA 3660B

Qualifier MDL **Parameter** Result Units RL**Dilution Factor** Column MCP Polychlorinated Biphenyls - Westborough Lab ND 37.8 1 Aroclor 1016 ug/kg Α ND Aroclor 1221 ug/kg 37.8 1 Α Aroclor 1232 ND ug/kg 37.8 1 Α --Aroclor 1242 ND 37.8 1 Α ug/kg --ND 1 Aroclor 1248 ug/kg 37.8 Α 1 ND Α Aroclor 1254 ug/kg 37.8 --Aroclor 1260 ND ug/kg 37.8 1 В Aroclor 1262 ND ug/kg 37.8 1 Α Aroclor 1268 ND 37.8 1 Α ug/kg --PCBs, Total ND 37.8 1 Α ug/kg --

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	А
Decachlorobiphenyl	76		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	83		30-150	В
Decachlorobiphenyl	80		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: Date Collected: 10/29/14 17:12

Client ID: PE-02 Date Received: 10/30/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 04:24

Analytical Date: 11/05/14 13:35 Cleanup Method: EPA 3665A
Analyst: TQ Cleanup Date: 11/05/14
Percent Solids: 82% Cleanup Method: EPA 3660B

Cleanup Date: 11/05/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls	- Westborough Lab						
1 1010	ND		4	20.0		,	
Aroclor 1016	ND		ug/kg	39.6		1	Α
Aroclor 1221	ND		ug/kg	39.6		1	Α
Aroclor 1232	ND		ug/kg	39.6		1	Α
Aroclor 1242	ND		ug/kg	39.6		1	Α
Aroclor 1248	ND		ug/kg	39.6		1	Α
Aroclor 1254	ND		ug/kg	39.6		1	Α
Aroclor 1260	ND		ug/kg	39.6		1	Α
Aroclor 1262	ND		ug/kg	39.6		1	Α
Aroclor 1268	ND		ug/kg	39.6		1	Α
PCBs, Total	ND		ug/kg	39.6		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		30-150	Α
Decachlorobiphenyl	63		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	78		30-150	В
Decachlorobiphenyl	61		30-150	В



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-03 Date Collected: 10/29/14 17:13

Client ID: PE-03 Date Received: 10/30/14 Sample Location: WORCESTER, MA Field Prep: Not Speci

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/04/14 04:24

Analytical Date: 11/05/14 13:48 Cleanup Method: EPA 3665A
Analyst: TQ Cleanup Date: 11/05/14
Percent Solids: 85% Cleanup Method: EPA 3660B

Cleanup Date: 11/05/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - We	stborough Lab						
			,,				
Aroclor 1016	ND		ug/kg	37.9		1	Α
Aroclor 1221	ND		ug/kg	37.9		1	Α
Aroclor 1232	ND		ug/kg	37.9		1	Α
Aroclor 1242	ND		ug/kg	37.9		1	Α
Aroclor 1248	ND		ug/kg	37.9		1	Α
Aroclor 1254	ND		ug/kg	37.9		1	Α
Aroclor 1260	340		ug/kg	37.9		1	В
Aroclor 1262	ND		ug/kg	37.9		1	Α
Aroclor 1268	ND		ug/kg	37.9		1	Α
PCBs, Total	340		ug/kg	37.9		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
	// Necovery	Quanner	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	Α
Decachlorobiphenyl	62		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	76		30-150	В
Decachlorobiphenyl	61		30-150	В



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-04 Date Collected: 10/30/14 10:57

Client ID: PE-06 Date Received: 10/30/14 Sample Location: WORCESTER, MA Field Prep: Not Speci

Sample Location:WORCESTER, MAField Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082AExtraction Date:11/04/14 04:24

Analytical Date: 11/05/14 14:02 Cleanup Method: EPA 3665A
Analyst: TQ Cleanup Date: 11/05/14
Percent Solids: 86% Cleanup Method: EPA 3660B

Cleanup Date: 11/05/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column		
MCP Polychlorinated Biphenyls - Westborough Lab									
A-color 4040	ND			27.0		4	۸		
Aroclor 1016	ND		ug/kg	37.8		1	Α		
Aroclor 1221	ND		ug/kg	37.8		1	Α		
Aroclor 1232	ND		ug/kg	37.8		1	Α		
Aroclor 1242	ND		ug/kg	37.8		1	Α		
Aroclor 1248	ND		ug/kg	37.8		1	Α		
Aroclor 1254	ND		ug/kg	37.8		1	Α		
Aroclor 1260	ND		ug/kg	37.8		1	Α		
Aroclor 1262	ND		ug/kg	37.8		1	Α		
Aroclor 1268	ND		ug/kg	37.8		1	Α		
PCBs, Total	ND		ug/kg	37.8		1	Α		

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		30-150	Α
Decachlorobiphenyl	70		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	84		30-150	В
Decachlorobiphenyl	70		30-150	В



Project Name: HOLY CROSS FIELDHOUSE **Lab Number:** L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: Date Collected: 10/30/14 11:56

Client ID: PE-05 Date Received: 10/30/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082A Extraction Date: 11/04/14 04:24
Analytical Date: 11/05/14 14:15 Cleanup Method: EPA 3665A

Analyst: TQ Cleanup Date: 11/05/14

Percent Solids: 86% Cleanup Date: 11/05/14

Cleanup Method: EPA 3660B

Cleanup Date: 11/05/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls	- Westborough Lab						
			,,				
Aroclor 1016	ND		ug/kg	36.4		1	Α
Aroclor 1221	ND		ug/kg	36.4		1	Α
Aroclor 1232	ND		ug/kg	36.4		1	Α
Aroclor 1242	ND		ug/kg	36.4		1	Α
Aroclor 1248	ND		ug/kg	36.4		1	Α
Aroclor 1254	ND		ug/kg	36.4		1	Α
Aroclor 1260	ND		ug/kg	36.4		1	Α
Aroclor 1262	ND		ug/kg	36.4		1	Α
Aroclor 1268	ND		ug/kg	36.4		1	Α
PCBs, Total	ND		ug/kg	36.4		1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	Α
Decachlorobiphenyl	54		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	72		30-150	В
Decachlorobiphenyl	55		30-150	В



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: Date Collected: 10/29/14 11:57

Client ID: PE-04 Date Received: 10/30/14 Sample Location: WORCESTER, MA Field Prep: Not Specified

Extraction Method: EPA 3540C Matrix: Soil Analytical Method: 97,8082A **Extraction Date:** 11/04/14 04:24 Analytical Date: 11/05/14 14:29 Cleanup Method: EPA 3665A Analyst: TQ Cleanup Date: 11/05/14

Percent Solids: 88% Cleanup Method: EPA 3660B Cleanup Date: 11/05/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyl	s - Westborough Lab						
Aroclor 1016	ND		ug/kg	35.8		1	Α
Aroclor 1221	ND		ug/kg	35.8		1	Α
Aroclor 1232	ND		ug/kg	35.8		1	Α
Aroclor 1242	ND		ug/kg	35.8		1	Α
Aroclor 1248	ND		ug/kg	35.8		1	Α
Aroclor 1254	ND		ug/kg	35.8		1	А
Aroclor 1260	ND		ug/kg	35.8		1	В
Aroclor 1262	ND		ug/kg	35.8		1	Α
Aroclor 1268	ND		ug/kg	35.8		1	А
PCBs, Total	ND		ug/kg	35.8		1	Α

			Acceptance			
Surrogate	% Recovery	Qualifier	Criteria	Column		
2,4,5,6-Tetrachloro-m-xylene	73		30-150	Α		
Decachlorobiphenyl	57		30-150	Α		
2,4,5,6-Tetrachloro-m-xylene	84		30-150	В		
Decachlorobiphenyl	61		30-150	В		



11/05/14 Serial_No:11071410:59

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified Report Date: 11/07/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A Analytical Date: 11/05/14 14:55

Analyst: TQ

Extraction Method: EPA 3540C
Extraction Date: 11/04/14 04:24
Cleanup Method: EPA 3665A
Cleanup Date: 11/05/14
Cleanup Date: EPA 3660B
Cleanup Date: 11/05/14

L1425946

Lab Number:

Parameter	Result	Qualifier	Units	RL	-	MDL	Column
MCP Polychlorinated Biphenyls -	- Westborough	Lab for sa	mple(s):	01-06	Batch:	WG737196	6-1
Aroclor 1016	ND		ug/kg	32.	1		А
Aroclor 1221	ND		ug/kg	32.	1		Α
Aroclor 1232	ND		ug/kg	32.	1		Α
Aroclor 1242	ND		ug/kg	32.	1		Α
Aroclor 1248	ND		ug/kg	32.	1		Α
Aroclor 1254	ND		ug/kg	32.	1		Α
Aroclor 1260	ND		ug/kg	32.	1		Α
Aroclor 1262	ND		ug/kg	32.	1		Α
Aroclor 1268	ND		ug/kg	32.	1		Α
PCBs, Total	ND		ug/kg	32.	1		Α

		4	Acceptance	;
Surrogate	%Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	Α
Decachlorobiphenyl	50		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	78		30-150	В
Decachlorobiphenyl	64		30-150	В



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1425946

Report Date:

11/07/14

	LCS		LCSD	9	%Recovery			RPD	
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits	Column
MCP Polychlorinated Biphenyls - Westboro	ough Lab Associat	ed sample(s):	01-06 Batch:	WG737196-2	2 WG737196-3				
Aroclor 1016	80		89		40-140	11		30	Α
Aroclor 1260	55		62		40-140	12		30	А

LCS		LCSD		Acceptance		
%Recovery	Qual	%Recovery Qual		Criteria	Column	
77		83		30-150	А	
54		60		30-150	Α	
73		83		30-150	В	
54		60		30-150	В	
	%Recovery 77 54 73	%Recovery Qual 77 54 73	%Recovery Qual %Recovery 77 83 54 60 73 83	%Recovery Qual %Recovery Qual 77 83 54 60 73 83	%Recovery Qual %Recovery Qual Criteria 77 83 30-150 54 60 30-150 73 83 30-150	

METALS



10/29/14 15:51

Date Collected:

Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-01

Client ID: PE-01 Date Received: 10/30/14

Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil
Percent Solids: 85%

Percent Solids: Dilution Date Date Prep **Analytical** Method Factor Prepared Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 15 mg/kg 0.44 1 10/31/14 22:26 11/03/14 19:22 EPA 3050B 97,6010C MG 56 1 97,6010C MG Barium, Total mg/kg 0.44 10/31/14 22:26 11/03/14 19:22 EPA 3050B ND 1 97,6010C Cadmium, Total 0.44 10/31/14 22:26 11/03/14 19:22 EPA 3050B MG mg/kg 97,6010C Chromium, Total 28 mg/kg 0.44 1 10/31/14 22:26 11/03/14 19:22 EPA 3050B MG 14 2.2 1 10/31/14 22:26 11/03/14 19:22 EPA 3050B 97,6010C MG Lead, Total mg/kg Mercury, Total ND 0.081 1 11/04/14 08:30 11/04/14 13:06 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.2 --1 10/31/14 22:26 11/03/14 19:22 EPA 3050B MG Silver, Total ND mg/kg 0.44 1 10/31/14 22:26 11/03/14 19:22 EPA 3050B 97,6010C MG



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-02 Date Collected: 10/29/14 17:12

Client ID: PE-02 Date Received: 10/30/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 82%

Dilution Date Date Prep **Analytical** Method Factor **Prepared** Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 15 mg/kg 0.48 1 10/31/14 22:26 11/03/14 19:26 EPA 3050B 97,6010C MG 42 1 97,6010C MG Barium, Total mg/kg 0.48 10/31/14 22:26 11/03/14 19:26 EPA 3050B ND 1 97,6010C 0.48 10/31/14 22:26 11/03/14 19:26 EPA 3050B MG Cadmium, Total mg/kg 97,6010C Chromium, Total 26 mg/kg 0.48 1 10/31/14 22:26 11/03/14 19:26 EPA 3050B MG 10 2.4 1 10/31/14 22:26 11/03/14 19:26 EPA 3050B 97,6010C MG Lead, Total mg/kg Mercury, Total ND 0.091 1 11/04/14 08:30 11/04/14 13:08 EPA 7471B 97,7471B МС mg/kg --97,6010C Selenium, Total ND mg/kg 2.4 1 10/31/14 22:26 11/03/14 19:26 EPA 3050B MG Silver, Total ND mg/kg 0.48 1 10/31/14 22:26 11/03/14 19:26 EPA 3050B 97,6010C MG



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-03 Date Collected: 10/29/14 17:13

Client ID: PE-03 Date Received: 10/30/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil

Percent Solids: 85%

Dilution Date Date Prep Analytical

arameter Pescult Qualifier Units PI MDI Factor Prepared Analyzed Method Method Analyset

Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals	- Westbord	ough Lab									
Arsenic, Total	16		mg/kg	0.46		1	10/31/14 22:26	3 11/03/14 19:30	EPA 3050B	97,6010C	MG
Barium, Total	31		mg/kg	0.46		1	10/31/14 22:26	3 11/03/14 19:30	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.46		1	10/31/14 22:26	3 11/03/14 19:30	EPA 3050B	97,6010C	MG
Chromium, Total	26		mg/kg	0.46		1	10/31/14 22:26	3 11/03/14 19:30	EPA 3050B	97,6010C	MG
Lead, Total	13		mg/kg	2.3		1	10/31/14 22:26	3 11/03/14 19:30	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.095		1	11/04/14 08:30	11/04/14 13:10	EPA 7471B	97,7471B	МС
Selenium, Total	ND		mg/kg	2.3		1	10/31/14 22:26	3 11/03/14 19:30	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.46		1	10/31/14 22:26	3 11/03/14 19:30	EPA 3050B	97,6010C	MG



Project Name:HOLY CROSS FIELDHOUSELab Number:L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-04 Date Collected: 10/30/14 10:57

Client ID: PE-06 Date Received: 10/30/14

Sample Location: WORCESTER, MA Field Prep: Not Specified Matrix: Soil

Matrix: Soil Percent Solids: 86%

Percent Solids:	86%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	Westbord	ough Lab									
Arsenic, Total	16		mg/kg	0.44		1	10/31/14 22:26	6 11/03/14 19:33	EPA 3050B	97,6010C	MG
Barium, Total	21		mg/kg	0.44		1	10/31/14 22:26	6 11/03/14 19:33	EPA 3050B	97,6010C	MG
Cadmium, Total	ND		mg/kg	0.44		1	10/31/14 22:26	6 11/03/14 19:33	EPA 3050B	97,6010C	MG
Chromium, Total	20		mg/kg	0.44		1	10/31/14 22:26	6 11/03/14 19:33	EPA 3050B	97,6010C	MG
Lead, Total	5.6		mg/kg	2.2		1	10/31/14 22:26	6 11/03/14 19:33	EPA 3050B	97,6010C	MG
Mercury, Total	ND		mg/kg	0.079		1	11/04/14 08:30) 11/04/14 13:12	EPA 7471B	97,7471B	MC
Selenium, Total	ND		mg/kg	2.2		1	10/31/14 22:26	6 11/03/14 19:33	EPA 3050B	97,6010C	MG
Silver, Total	ND		mg/kg	0.44		1	10/31/14 22:26	3 11/03/14 19:33	EPA 3050B	97,6010C	MG



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-05 Date Collected: 10/30/14 11:56

Client ID: PE-05 Date Received: 10/30/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil Percent Solids: 86%

Dilution Date Date Prep **Analytical** Method Factor **Prepared** Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 11 mg/kg 0.46 1 10/31/14 22:26 11/03/14 19:37 EPA 3050B 97,6010C MG 29 1 97,6010C MG Barium, Total mg/kg 0.46 10/31/14 22:26 11/03/14 19:37 EPA 3050B ND 1 97,6010C 0.46 10/31/14 22:26 11/03/14 19:37 EPA 3050B MG Cadmium, Total mg/kg 97,6010C Chromium, Total 17 mg/kg 0.46 1 10/31/14 22:26 11/03/14 19:37 EPA 3050B MG 5.1 2.3 1 10/31/14 22:26 11/03/14 19:37 EPA 3050B 97,6010C MG Lead, Total mg/kg Mercury, Total ND 0.088 1 11/04/14 08:30 11/04/14 13:14 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.3 --1 10/31/14 22:26 11/03/14 19:37 EPA 3050B MG Silver, Total ND mg/kg 0.46 1 10/31/14 22:26 11/03/14 19:37 EPA 3050B 97,6010C MG



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-06 Date Collected: 10/29/14 11:57

Client ID: PE-04 Date Received: 10/30/14
Sample Location: WORCESTER, MA Field Prep: Not Specified

Matrix: Soil
Percent Solids: 88%

Dilution Date Date Prep **Analytical** Method Factor **Prepared** Method **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Arsenic, Total 12 mg/kg 0.44 1 10/31/14 22:26 11/03/14 19:49 EPA 3050B 97,6010C MG 25 1 97,6010C MG Barium, Total mg/kg 0.44 10/31/14 22:26 11/03/14 19:49 EPA 3050B ND 1 97,6010C 0.44 10/31/14 22:26 11/03/14 19:49 EPA 3050B MG Cadmium, Total mg/kg 97,6010C Chromium, Total 16 mg/kg 0.44 1 10/31/14 22:26 11/03/14 19:49 EPA 3050B MG 5.0 2.2 1 10/31/14 22:26 11/03/14 19:49 EPA 3050B 97,6010C MG Lead, Total mg/kg Mercury, Total ND 0.092 1 11/04/14 08:30 11/04/14 13:19 EPA 7471B 97,7471B MC mg/kg --97,6010C Selenium, Total ND mg/kg 2.2 --1 10/31/14 22:26 11/03/14 19:49 EPA 3050B MG Silver, Total ND mg/kg 0.44 1 10/31/14 22:26 11/03/14 19:49 EPA 3050B 97,6010C MG



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1425946

Report Date: 11/07/14

Method Blank Analysis Batch Quality Control

Parameter	Result Quali	fier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - We	estborough Lab	for sample(s):	01-06	Batch: \	NG736576-1				
Arsenic, Total	ND	mg/kg	0.40		1	10/31/14 22:26	11/03/14 18:17	97,6010C	MG
Barium, Total	ND	mg/kg	0.40		1	10/31/14 22:26	11/03/14 18:17	97,6010C	MG
Cadmium, Total	ND	mg/kg	0.40		1	10/31/14 22:26	11/03/14 18:17	97,6010C	MG
Chromium, Total	ND	mg/kg	0.40		1	10/31/14 22:26	11/03/14 18:17	97,6010C	MG
Lead, Total	ND	mg/kg	2.0		1	10/31/14 22:26	11/03/14 18:17	97,6010C	MG
Selenium, Total	ND	mg/kg	2.0		1	10/31/14 22:26	11/03/14 18:17	97,6010C	MG
Silver, Total	ND	mg/kg	0.40		1	10/31/14 22:26	11/03/14 18:17	97,6010C	MG

Prep Information

Digestion Method: EPA 3050B

Parameter	Result Qua	lifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals -	Westborough Lab	for sample(s):	01-06	Batch:	WG736622-1				
Mercury, Total	ND	mg/kg	0.083		1	11/04/14 08:30	11/04/14 12:50	97,7471B	MC

Prep Information

Digestion Method: EPA 7471B



Lab Control Sample Analysis Batch Quality Control

Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number:

L1425946

Report Date:

11/07/14

arameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Westborough Lab Associa	ated sample(s): 01-00	6 Batch	: WG736576-2	WG736576	-3 SRM Lot Numbe	er: D083-540		
Arsenic, Total	106		98		78-122	8		30
Barium, Total	102		96		82-117	6		30
Cadmium, Total	110		99		82-118	11		30
Chromium, Total	108		98		79-121	10		30
Lead, Total	104		96		81-119	8		30
Selenium, Total	115		102		78-123	12		30
Silver, Total	114		99		74-125	14		30
CP Total Metals - Westborough Lab Associa	ated sample(s): 01-00	Batch	: WG736622-2	WG736622	-3 SRM Lot Numbe	r: D083-540		
Mercury, Total	118		117		75-126	1		30



INORGANICS & MISCELLANEOUS



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-01

Client ID: PE-01

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/29/14 15:51

Date Received: 10/30/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	85.4		%	0.100	NA	1	_	10/31/14 20:28	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-02

Client ID: PE-02

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/29/14 17:12

Date Received: 10/30/14

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	81.5		%	0.100	NA	1	-	10/31/14 20:28	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-03

Client ID: PE-03

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/29/14 17:13

Date Received: 10/30/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	85.0		%	0.100	NA	1	-	10/31/14 20:28	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-04

Client ID: PE-06

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/30/14 10:57

Date Received: 10/30/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	85.5		%	0.100	NA	1	-	10/31/14 20:28	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-05

Client ID: PE-05

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/30/14 11:56

Date Received: 10/30/14

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	86.4		%	0.100	NA	1	-	10/31/14 20:28	30,2540G	RT



Project Name: HOLY CROSS FIELDHOUSE Lab Number: L1425946

Project Number: Not Specified Report Date: 11/07/14

SAMPLE RESULTS

Lab ID: L1425946-06

Client ID: PE-04

Sample Location: WORCESTER, MA

Matrix: Soil

Date Collected: 10/29/14 11:57

Date Received: 10/30/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab									
Solids, Total	88.4		%	0.100	NA	1	-	10/31/14 20:28	30,2540G	RT



Lab Duplicate Analysis
Batch Quality Control

Lab Number: **Project Name:** HOLY CROSS FIELDHOUSE L1425946

11/07/14 **Project Number:** Not Specified Report Date:

Parameter	Native Sample	Duplicate Sample	<u>Units</u>	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Ass	sociated sample(s): 01-06 QC E	Batch ID: WG736571-1	QC Sample: L	1424503-03	Client ID:	DUP Sample
Solids, Total	88.9	88.8	%	0		20



Project Name: HOLY CROSS FIELDHOUSE

Lab Number: L1425946 Project Number: Not Specified **Report Date:** 11/07/14

Sample Receipt and Container Information

YES Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

Absent Α

Container Info	ormation		Temp						
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)		
L1425946-01A	Glass 250ml/8oz unpreserved	A	N/A	2.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		
L1425946-02A	Glass 250ml/8oz unpreserved	A	N/A	2.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		
L1425946-03A	Glass 250ml/8oz unpreserved	A	N/A	2.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		
L1425946-04A	Glass 250ml/8oz unpreserved	A	N/A	2.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		
L1425946-05A	Glass 250ml/8oz unpreserved	A	N/A	2.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		



Project Name: HOLY CROSS FIELDHOUSE

Project Number: Not Specified

Lab Number: L1425946

Report Date: 11/07/14

Container Information									
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)		
L1425946-06A	Glass 250ml/8oz unpreserved	Α	N/A	2.2	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),MCP-8082-10-3540C(365),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)		



Project Name:HOLY CROSS FIELDHOUSELab Number:L1425946Project Number:Not SpecifiedReport Date:11/07/14

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

 Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

SRM

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
 of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1425946Project Number:Not SpecifiedReport Date:11/07/14

Data Qualifiers

- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:HOLY CROSS FIELDHOUSELab Number:L1425946Project Number:Not SpecifiedReport Date:11/07/14

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, lodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl. EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F; Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mq,Mn,Mo,Ni,K,Se,Aq,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN O	F CUSTODY P	AGEOF	Date Rec'd in Lab: 10/30/W ALPHA Job #: L1425 946
WESTBORO, MA MANSFIELD, MA TEL: 508-898-9220 TEL: 508-822-9300 FAX: 508-898-9193 FAX: 508-822-3288 Client Information		Fieldhouse Fer MA	Report Information - Data Deliverables FAX
Address: 23 Main St Andover HA 01810 Phone: 978-470-4755 Fax:	Project #. Project Manager: Richard ALPHA Quote #: Turn-Around Time	Gang	State /Fed Program HANCP /EPA Criteria PCBs detect. limit < Ippm MA MCP PRESUMPTIVE CERTAINTY CT REASONABLE CONFIDENCE PROTO Yes No Are MCP Analytical Methods Required? Yes No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments) Yes No Are CT RCP (Reasonable Confidence Protocols) Required?
Email: richard@cooperstownenv.com These samples have been previously analyzed by Alpha Other Project Specific Requirements/Comm If MS is required, indicate in Sample Specific Comments (Note: All CAM methods for inorganic analyses require M:	Date Due: I/ J/U Dents/Detection Limits: which samples and what tests MS to be Severy 20 soil samples)	Time: performed.	#3500B/3540C of SAMPLE HANDLING SW-84G Filtration Done Not needed Lab to do Preservation B O R B O
ALPHA Lab ID (Lab Use Only) Sample ID	Collection Date Time	Sample Sampler's Initials	Lab to do (Please specify below) Sample Specific Comments
25946-01 PE-01 02 PE-02 03 PE-03	10/29/14 3:51 p 5:12 p	Soil AN	
04 PE-06 05 PE-05	10/30/14 10:57	501 AN	
06 PE-04	11:57	7 7	X X
IS YOUR PROJECT MA MCP or CT RCP? FORM NO: 01-01 (rev. 18-Jan-2010)	Relinquished By:	Container Type Preservative Date/Time 10/30/14 12:27	